AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY SAMUEL WAGNER, WASHINGTON, D. C.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

VOL. V. **AUGUST, 1869.** No. 2.

[From the London "Journal of Horticulture."]

Bees and Bee-Keeping in Egypt.

It may be remembered that, when commencing a series of articles upon "The Egyptian Bee," I stated that the distinguished German apiarian, Herr Vogel had taken charge of the illustrious little strangers, whose involuntary migration into Europe had been made under the auspices of the Berlin Acclimatisation Society. After succeeding to admiration in multiplying and disseminating his interesting protégées, Herr Vogel seems to have been inspired with the desire of making the acquaintance of *Apis fasciata* in its own habitat. This desire he was enabled to gratify during the spring of 1866, and, I have now much pleasure in submiting to the readers of "our Journal" a translation of the very interesting account which he has given of his apiarian observation during his Egyptian trip.—T. W. WOODBURY, DEVONSHIRE BEE-KEEPER, MOUNT RADFORD, EXETER, ENGLAND.

THE EGYPTIAN BEE.

The recluse who never moves outside the four walls of his house, or at the farthest goes not beyond the familiar shade of the trees in his own garden, may well believe that the sun shines not on foreign lands, and that the inhabitants of distant countries must perforce dwell in utter darkness; but the bee-master should at least know from what field and from what flower his bees gather sweet nectar and gaily-tinted pollen, as well as the places from which they fetch water. The reader of our Bee Journal may also if he pleases travel in thought through Germany, Italy, Poland, Russia, and by land to all the countries of Europe—by water to Australia, Asia and Africa; to the lands of the Mohammedan and the heathen, and witness how the little bee is everywhere provided for by the beneficent Creator, and how she is fostered by man.

Let me beg the courteous reader to permit himself to be in thought transported with me through the air and over the blue waters of the Mediterranean to the ancient city of Cairo. But Cairo alone, the unsubdued or rather the invincible, is not, with all her glory and magnificence, sufficient to captivate us, for we are anxious to see the little bee and the Egyptian bee-masters. Hiring donkeys, the driver straightway conducts us to Old Cairo, and to the Arab Soliman, who is grave-digger in the English churchyard. Here, accordingly, we find the old Arab occupied in the God s acre under the shade of the tall trees; but he is not now making a last resting place in the cool ground for any child of man, but is only closing a bee-hive, into which he has just shaken a swarm of his wards. Our dragoman introduces us as European bee-keepers, who have come to sit at the feet of the Egyptian bee-master, and to listen to the teachings of Egyptian wisdom. Alas, it is not permitted to us to read in the eyes of the Arabian bee-master the impression which this representation has made upon him. Soliman certainly wears no yash-mak, like the feminine beauties or ugly ones of his land, but has simply a bee-cap drawn over his head. We express to him our surprise at seeing in Old Cairo a bee-cap exactly similar to those we have met with in Europe, when Soliman at once becomes communicative, and relates as follows:

"In the year 1242* the foreigner Hammerschmidt bought of me a stock of bees, which he took to Europe. In the following year Hammerschmidt came again from Berlin, a town of the unbelievers in the cold North, to Cairo, and brought me this cap as a present. The inventor of the bee-cap is Vogel, a bee-keeper in Europe who received my bees. Neither my father, nor my grand-father, nor great-grandfather knew bee caps, and formerly I also continually went amongst my bees without a bee-cap. How proud, then, am I to possess the first bee-cap in the land! How costly is the material of this fabric! The great Prophet, himself, could not have worn worthier or better raiment! The colors of the material, and of this band, are they not excellent and ravishing to the eye, as a rose that is kissed by the first blush of the dawn? Vogel's friend has washed this fabric with pearls of dew in the morning, and dried it in the evening glow of the heavens!"

*Hegira.

We miss hearing the farther praises of the bee-cap whilst making the following note in our diary:—

1. "In the year 1865, the Berlin Acclimatisation Society sent through the photographer, Hammerschmidt a bee-cap, which Vogel had furnished, to the Arab Soliman, in Old Cairo. This cap is the first in Egypt."

We are pleased at the truthfulness of the Arab, who does not extol himself as the inventor of the bee-cap, whilst we pardon his mistake† in ascribing the invention to Vogel.

In order not to weary the reader with the diffuse and pompous speeches of the old Arab, we merely extract the farther notices from our diary, permitting ourselves only to add some explanatory remarks.

2. "The ruler of the bees is slender as a palm tree, the male heavy as a crocodile; the slaves are most like the mother, must work day and night, cleave in love and service to the ruler, and slaughter the males at command. The ruler orders the murder of the males as soon as the flowers are withered in the heat of summer; the males are unable to defend themselves, in that they are stingless. If the males were to remain alive in the summer they would obtain authority; but in the bee community only the mother shall rule."

The Arab also knows three different kinds of bees—the queen, drones and workers. He says that the worker-bees may be so attached to the queen because they owe their existence to her. The egg of the bee is not unknown to the Arab bee-master; he knows that out of it will come a worm, and in time a young bee.

3. "Bees swarm in Old Cairo in the month of March, when the clover begins to flower. At this time the Arab daily lays his ear on his stocks, in order to hear when the old mother-bee begins to 'weep.' When this 'weeping' is heard he counts upon a swarm being pleased to issue the next day. As the queen will then forsake her children and her government to found a new empire, the Arab deems the sounds of lamentation very natural."

We can scarcely understand this mistake in respect of swarms. Soliman firmly maintains that swarms can be looked for only when the rulers "weep" (pipe or clack.) From what we heard, we concluded that the Arab first watches for swarms when a stock has already sent off a prime swarm, and when the young queens in the stock hives pipe and clack. The first prime swarm must therefore certainly fly off, unless he should by accident discover them hanging on a tree. To the question, Whether he did not sometimes have a swarm without the queens having "wept," he answered that then he had either missed hearing the "weeping," or the swarm found was a wild (flown away) one.

4. "The swarms are shaken into empty cylinders. In order that the bees may be pleased with their new dwelling, empty and full honey-combs are set up in it. This can be easily done, as all the cylinder-hives are of equal width. Each comb must be placed on a forked stick, and by means of this may be firmly fixed, if the length of the stick be the same as the diameter of the hive."

It is certain that during the past hundred years the Egyptians have been able to prevent swarming. Soliman is, in this point of his practice, perfectly Dzierzonian, without, however, knowing Dzierzon's name. That the Arab prevents swarming in order to dry the tears of the ruler of the swarm, is, practically, of no importance whatever.

5. "If a stock swarms, notwithstanding that the queen has not yet "wept," the Arab makes an artificial swarm. When the bees have taken flight, he, towards evening, stops the entrance in the front disc of the cylinder, opens the door behind, takes out a portion of the comb with the bees hanging on it, and places it carefully in an empty cylinder. In order not to weaken one stock too much, he takes combs and bees from two or three hives, and forms his artificial swarm by putting them all together. When the back door is again closed, the front entrance is opened, so as to receive into the parent stock, instead of into the artificial swarm, those bees which have collected during the removal of the combs. The Arab thinks that he has then a queen in the new stock, and that otherwise the operation fails. 'When,' says Soliman, 'I do not divide and remove the bees at the right time, the young bees kill their old mother, and cast her dead body out of the hive.'"

Our friend Soliman also understands dividing and transporting. He only divides those stocks that have young queens which pipe and clack. He always takes care that he has a young queen in the artificial swarm, because after a queen has been hatched the divided swarm would not have suitable brood for raising a queen, as when a stock pipes and clacks after the first swarm has issued all the brood is already sealed over. That artificial swarms may be made with brood only, passes the comprehension of the Arab, and thinking is not his métier. I doubt not that to this day there are old boys in Germany that know no more of the manner in which a queen is produced than Soliman himself. Some years since a bee-keeper died in this neighborhood, who never could thoroughly comprehend that it was possible for the bees to raise a queen out of an ordinary worker egg or larvæ. In order to demonstrate the matter to him *ad instantium* and *ad oculos*, I made on my own stand, and before his eyes, an artificial swarm, by means of brood-comb. Every comb did he most rigidly examine, and finally declared it certain that no royal cells were there. Eight days afterwards I took this opposer of the march of intellect to the artificial swarm, lifted out the combs, and showed him five adhering royal cells. "Yes," he admitted, "those are queen cells." I detained the old man in order to convince him, and described the manner in which a queen-bee was reared. During my discourse he shook his head, as I fondly thought, in wonder at the marvellous instinct of the bee; but some days afterwards I heard that this incredulous and mistrustful blockhead thus expressed himself:—"Why, this blunderer would make

†*Errare humanum est.*

me believe something. He puts royal cells into the hive behind my back, and would then persuade me that the queenless bees had built them." *Roma locuta, res finita*, thought I. Our bee-colleague Soliman could, indeed, hardly have expressed himself worse.

The Arab holds the erroneous opinion that at the time of swarming there are several queens in one and the same hive; and that if the stock does not swarm, or he does not divide it, the old mother is always killed by the young queens.

6. "In the middle of summer (August) when the Nile rises and overflows its banks, the Egyptian bee-master cuts out the honeycombs. Whilst this is being done the entrance is stopped, and the disc at the back of the hive being removed, the bees are driven towards the front by means of smoke. A knife having been used to loosen them at the top, perhaps three-fifths of the honey-laden circular-shaped combs are taken out. Combs containing brood-cells are not meddled with; and if at any time the Arab by mistake takes out a comb containing eggs, larvæ, or sealed brood, he immediately returns it again. The destruction of bees by sulphur is unknown."

In Egypt they also follow the swarming and depriving‡ system. To destroy brood is there held as a sin. What, indeed, would Soliman call those German bee-keepers who teach that at the time of the blooming of the willow (the end of March or beginning of April) one should cut out of the stocks all empty and brood-combs up to the sealed honey at the top? Verily all that they do in strange lands and distant parts of the earth is not so much amiss.

7. "Soliman is truly a great smoker, yet he never employs tobacco in his operations, but smokes bees only with dried cowdung."

I have before stated that the Egyptian bee stings only when irritated, and I now repeat the same, in order to avoid mistakes; but on the other hand, if irritated it is extremely vicious.

I at first operated on the imported colony without smoke; and as I was neither stung nor otherwise molested by the bees, I could then with truth assert that the Egyptian bee did not sting. About four weeks afterwards I made use of cigar-smoke when withdrawing an Egyptian brood-comb in order to remove it. I forthwith received eleven stings in the face and five in the hands. The other day I purposely operated with tobacco smoke, and, having on no bee-cap, was compelled to run away. All recent observations go to prove that tobacco smoke excites the greatest wrath in the Egyptian bee. With the German and Italian bees the human breath produces the same effect. If the ire of an Egyptian stock is once excited, it remains for a long time extremely vicious, and when it has at last calmed down, we need use but a few whiffs of tobacco smoke to see the rage of the little insect break out again in all its full fury. We can understand with what spirit the Egyptian bee sets upon people, when we consider the extraordinary agility and vivacity of the insect. In order to subdue its irritation, I use the smoke of decayed willow wood, (touchwood,) and this converts its courage into embarrassment, despondency, and dread. They will even then fly at the operator, circle around him like mad, and pitch on his face, hands, &c., curving themselves at the same time as if they would sting, but mostly fly off again without having done so. I have not yet tried upon the Egyptians the effect of smoke from dried cowdung.

8. "The Egyptian-cylinder hives are four feet long * and are made of a compost of Nile mud and cowdung. The Arab makes a mould of reeds, round which he plasters the well-kneaded material to the thickness of about 3 inches. When the cylinder which is thus formed becomes dry, the reedwork is withdrawn. Straw hives are unknown in any part of Egypt. In Upper Egypt, in addition to these cylinders, they also use as bee-hives movable pots and pans formed of the same material. Stray swarms are frequently discovered on the ground, when, if the finder has not the courage to hive them, and the swarms be on his own land, he takes Nile mud, mixed with cowdung, and builds a little hut in the form of an oven, closing up the hole which he has left, by means of a door formed of the same material."

Travelers tell us not unfrequently of bee-hives which they have seen in Egypt. So, for example, De Maillet in his *Description de l'Egypte* speaks of "hives," "bee-hives," and "honey-hives." Among the Egyptian "bee-hives" they have not, up to the present time, contrived straw hives, but only cylinders, pots, &c., formed of Nile mud. There is positively no reason whatever for supposing that the ancient Egyptians used straw hives, since straw is, on account of its retention of heat, a most unfit material for bee-hives in this country.

9. "The Egyptians place their bee-hives as near as possible to the clover fields. In the immediate neighborhood of the cylinder-hives, which are piled up like drain-pipes, is erected a dwelling for the bee-watchman."

Bees collect the most honey from clover. The clover which is so abundantly cultivated in Egypt, Trifolium alexandrinum, should also be cultivated by the Berlin Acclimatisation Society in the experimental fields in Berlin, where, through sowing the original seed, they had such a brilliant result in the year 1862. The plant is an annual, and the seed raised, even on good soil, in this locality, is wanting in the vigor necessary to produce the superior clover which we find in its native country. To import seed annually would, with the high cost of transport and the doubtfulness of the supply, be doubly disadvantageous.

10. "Travelling with bee-stocks is no longer seen in Egypt."

According to various accounts, the ancient Egyptians practiced a profitable system of migratory bee-keeping. De Maillet related (1740), that they then still made use of the Nile in order to obtain a rich honey harvest. "In Egypt they have preserved a custom, introduced by the ancients, of maintaining bees in a very peculiar

‡This deprivation is effected by cutting combs out of the hives.—A DEVONSHIRE BEE-KEEPER.

*About 3 feet 10 inches English measure.

manner. Sainfoin is first sown towards the end of October, when the Nile, subsides. As Upper Egypt is hotter than Lower Egypt, and the inundation sooner disappears, the sainfoin there grows and flowers earlier. They, therefore, send their bee-hives from Lower Egypt to the south, in order that the bees may gather from the flowers. The bee-hives are all numbered and piled in a pyramidal form on Nile boats. The bees pasture for some days in the fields, and when it is believed that the chief harvest is over, the boat moves two or three miles northwards, and halts again so long as the bees can profitably remain. At last, in the beginning of February, the boatman returns to the sea and restores the stocks to their owners." Niebuhr also describes migratory bee-keeping in Nile boats. From verbal information imparted to Dr. Gerstacker, we learn that neither Ehrenberg nor Dr. Hartmann observed during their travels the transportation of bee-hives on the Nile. Hammerschmidt's careful inquiries in the year 1865 have established the fact, that at present migratory bee-keeping is not pursued in Egypt. All modern accounts, therefore, which represent migratory bee-keeping as being still customary in that country, are, of course, unfounded.

11. "The worst enemy which the bees have in Egypt is a long slender wasp, or humble-bee, with a red body. In the latter part of the summer this insect sets itself before the entrance of the hive and kills every bee that comes out. At this season, therefore, a child is stationed in front of the hives with a large fan to drive away the wasps. In the year 1865 the Arab Soliman had in a short time no less than eighteen out of a hundred stocks so completely plundered that they died, and all through the carelessness of the child to whom the watch was entrusted."

What Egpytain insect may be meant by the red-bodied wasp, or humble bee, I am unable to learn. I hope, however, that those naturalists who are among the readers of our Bee Journal will be able to determine its name from this insufficient description,

12. "W. Hammerschmidt, the photographer, had promised me a photopraph of the Arab Soliman, undoubtedly the greatest Egyptian apiarian. At my request, also, Soliman declared that he would gladily permit himself to be photographed; but he soon changed his mind. Even the most civilised Arab cannot understand the nature of the photograph, and therefore views the art as the work of the devil, terrifying accordingly to the ordinary Bedouins and Fallaheen. Friend Soliman very soon began to allege all manner of excuse, such as that he suffered from rheumatism, and was unable to go when Herr Hammerschmidt invited him to accompany him and have his likeness taken; so that all I obtained from the old Soliman was an exchange of compliments."

The reader may, perhaps, be enabled from the information which I have set before him to picture to himself Egyptian bee-keeping. I am indebted for this information almost entirely to Herr Hammerschmidt, who has passed nearly a generation in Egypt, and is a perfect master of the Arabian language, so that an understanding with the Arab became easy. Herr Hammerschmidt obtained answers to a number of questions which I had written, and noted them down immediately. In order not to pervert the sense of Herr Hammerschmidt's memoranda, I have transcribed them almost literally.

We have been far away from home, and right glad are we to be safe back again with wife and child. We intend next to make an excursion to Greece, in order to report upon the bee-keeping in the convent Cæsarea, one league from Athens, on the front spur of the Hymettus.—W. VOGEL.

[For the American Bee Journal.]

Fertile Worker-Bees; or, Undeveloped Females.

I have tried a great number of experiments with fertile worker-bees during the last five years, and have destroyed or permanently injured a number of stocks in making them have fertile workers in the hive. I have examined hundreds of combs in these stocks, in the hope of detecting the worker-bee in the very act of laying eggs; and I may say that I have examined nearly every bee in those stocks that contained fertile workers, but never could fix on the bee that I could positively say laid the eggs.

But, as in most things, with perseverance I at last accomplished the task I had set myself. For on the 26th day of August, 1866, at 7 A. M. I quietly removed the crown-board off a stock that contained fertile workers, and quietly lifted out one of the centre combs and saw a worker-bee in the very act of laying an egg. (No person that ever saw a queen laying eggs could be mistaken in this act.) The bee had its abdomen down in the cell, the comb around her being clear, and was surrounded by the bees exactly as a fertile queen is found when in the act of ovipositing.

My lifting out the comb did not appear to disturb this bee more than it has a fertile queen when I have lifted out a comb, several of which have laid eggs whilst I have had the comb in my hands. I waited until this fertile worker had finished laying the egg, and as she was withdrawing her abdomen out of the cell, I caught her and put her into a small queen box, I removed the comb, which contained worker cells only, and examined this egg which I saw the worker-bee laying; but in appearance there was little or no difference between it and an egg laid by a fertile queen. In some of the cells there were from one to ten eggs in one cell, and drone brood in all stages of developement, some of them hatched out as small drones.

The sealed brood had a very singular appearance, with here and there a conical cover, the brood not being in a mass as when laid by a fertile queen. In some cases two of the eggs were hatched in the same cell, the bees enlarging the entrance to the cell to the size of two cells, and then covering the two larvæ with one large conical cover; and I have seen them afterwards emerge from their cradle perfect

drones. This is the first account I ever heard of two bees coming to maturity in the same cell.

The fertile worker bee presented all the characteristics of a common bee, except the abdomen, which was a little more distended. Upon carefully dissecting the bee, I found that her ovaries contained eggs, some of which had come to maturity; but nothing like the quantity of eggs found in the ovaries of a fertile queen.

I believe this is the first fertile worker-bee that has ever been actually caught in the very act of laying eggs, since the days of the king of bee-masters—the illustrious *Huber*.*

Fertile workers are more common than most bee-masters are aware of, and the young drones they produce are often thought to be the progeny of drone breeding queens. "A Bee-master" who has written a series of articles in the "*Scottish Gardener*," offered in that paper to give £10 for any fertile bees or their eggs. I told him if he would expend ten pence, to carry him from his house to my apiary and back, I would show him a hive with hundreds of eggs laid by fertile workers. I suppose he was convinced there were such things as fertile workers, as he never came to see them.

WILLIAM CARR.

NEWTON HEATH,
NEAR MANCHESTER, ENG.

Exhibition of Bees.

From the account given in the "*Manchester Guardian*" of the National Horticultural Exhibition at Old Trafford (England), in May, we copy the following paragraph, showing that the bees, their work, and their accommodations, occupied a prominent position on that occasion. A sight so novel to most of the spectators and so interesting and instructive to all, cannot have failed to make a strong and lasting impression in favor of bee-culture there.

BEES AT WORK IN THE BOTANICAL GARDENS.—One of the most interesting sights in the exhibition is two stocks of those beautiful and superior honey bees, the Ligurian or Italian Alp bees, at work. These are exhibited by Mr. William Carr, of Clayton Bridge, Newton Heath, in one of his "improved humane-observatory revolving bar-frame beehives," the four sides and the top of which are composed of layers of glass. The bees and combs in the hive are always in view. There is a thermometer inside the hive, and Mr. Carr states, from observations that he has taken three times each day for several years, that it is the warmest hive in winter that he has tried. There about 25,000 bees in this hive. The other stock of Ligurian bees are in Mr. Carr's "improved unicomb-observatory revolving bar-frame bee-hive," which, for scientific purposes, is one of the most wonderful hives ever invented, as all the mysteries of the hive are exposed to view. And it is most interesting to see the queen laying her eggs in the cells, surrounded by her maids of honour, who are constantly paying her some attention; at one time feeding her, then dressing or smoothing her hairs, crossing their antennæ, as if in conversation, or communicating to one another by their sensitive touch, and then moving out of the queen's way as she walks in royal dignity over the combs in search of empty cells in which to deposit her eggs; and, like the Court of our own Queen, her subjects retire backwards, with their faces turned to her majesty. Mr. Carr states that a fertile Ligurian queen will lay from 100,000 to 200,000 eggs in a year, and that one impregnation fructifies more than half a million of eggs. In this unicomb hive the eggs and brood can be seen in the cells, and the young bees biting the cover of their cradle away, and emerging into life perfect bees. The bees that have been abroad collecting can be seen unloading the pollen from the basket in their thighs, and depositing the honey in the cells. In fact all the hidden wonders of the interior of a beehive are here revealed at a glance. Mr. Carr also exhibits a bell glass filled with from thirty to forty pounds of very splendid honeycombs. It was collected at Clayton Bridge principally from white clover, by the superior and beautiful bees, the Ligurians. He also exhibits improved bar frames, filled with beautiful honeycombs, weighing from six to seven pounds each. Any comb can be taken out of these improved humane bar-frame hives, and placed on the breakfast or tea table in less than five minutes, at any time of the day, without killing a single bee. Mr. Carr has had a great number of prizes awarded to him for the exhibition of his bees at work, and he exhibits a large silver medal awarded to him at the Manchester and Liverpool Agricultural Society's centenary celebration in 1867.

The enormous quantities of honey produced may be comparatively estimated by the collateral production of beeswax, which it exceeds by at least ten to one. When we reflect upon what masses of the latter are consumed in the rites of the Roman Catholic and Greek churches throughout the many and large countries where those religions prevail, we shall be able to form a general estimate of the extensiveness and universality of the cultivation of bees. Nor are these the only uses to which wax is applied, and the collective computation of its consumption will show that bees abound in numbers almost transcending belief.

The only instance of the occurrence of the very distinct genera of *Apis* and *Melliponа*, both honey-storing genera, yet known to exist indigenously in the same locality, is found in the island of Java.

* The Baron of Berlepsch, and his assistant Gunther, repeatedly caught fertile workers in the act of laying eggs; and Prof. Luckert, in May, 1865, dissected several which the Baron sent to him preserved in spirits of wine. But the fact that two larvæ were sealed up in one cell, with one large conical cover, and came to maturity, is we believe an observation not made before.

[For the American Bee Journal.]

How Thorns Grow in Beeland.

On reading the article on page 48 of the September number of the BEE JOURNAL, stating that Osmond Patton died from the effect of a bee sting, I thought it my duty to give a truthful account of what happened to me, last summer, with a distant neighbor of mine. Though the fact I am going to relate has nothing to do directly with practical bee-culture, yet it may save some a good deal of trouble, keep them perhaps from sleepless nights and apprehensions of dreadful vengeance; and at the same time serve as a warning against intemperance, carelessness and superstition.

As with me, so I am aware it is with nearly every bee-keeper, who has a large apiary. Farms on which bees are kept, are more frequented by visitors and seekers than others. If not thus with all, it is so however with me in the bee season. Then, especially on Sundays, a neighbor or some stranger strolls along the fences, with slow and measured step, looking up and down through garden and orchard, till he arrives in fair sight of the apiary. Here his steps slacken, and he finally stops, apparently counting the bees and hives. Then, slowly moving onward again, he at length disappears as suddenly as he came. This may be seen every summer, wherever a public road passes within view of an apiary.

A man, living some miles away, made such approaches to my apiary, several times, when passing along on his way to church, or on other business. One Sunday, returning from Mass, about two o'clock in the afternoon, he made his appearance again, in his habitual slow pace, gazing intently over the fence, his face beaming with delight. On seeing me near an apple tree, where I was examining some damage done by mischievous boys the previous winter, he crossed the fence, and gesticulated towards the apiary. Being myself extremely deaf, I heard nothing, but judged from his actions that the man was greatly astonished at seeing so many bees—more perhaps than he had ever seen before. Pleased to see him thus interested, I went to him and asked if he was a lover of bees. "No," said he, "I have never seen honey bees in an apiary; but I have heard a great deal of talk about them, and therefore stepped over to ask your permission to have a look at them." "Well, friend," I replied, "you shall not only see my apiary, but the hives also inside and outside, and moreover taste the sweetness of the honey-comb this very day." Together we walked till we reached the apiary—which is a bee-house two stories high, covered with a shingle roof, and enclosed all around with boards, with a door for entrance. The hives were placed close together, and we stood in front in full range of the bees' flight. As my man was in profuse perspiration, after his four miles walk from church, I told him it was not a safe place for us. The bees were flying splendidly; it was just two o'clock, the weather was very sultry, the young were exercising in great numbers, and the man stood at full height among them. Fearing he might be stung, I asked him to go into the bee-house. But seeing me disregard the bees and expose myself so fearlessly, he concluded the bees are merely flies, and declined seeking shelter. "No," said he, "I was once stung in my thumb by a humble-bee, it was nothing more than a flea bite, big bee though it was." "Well, then," said I, "be attentive, I am going to turn over one of the hives that you may see its interior. Be careful not to make any sudden movement which may irritate the bees, though mine are gentle." In a moment I had the hive turned over with the opening or mouth towards him. The man prattled and looked on to his heart's content, examining both bees and combs closely, and constantly approaching nearer and nearer, till suddenly he made a fearful leap, uttered a piercing shriek, and rushed away with quite a stream of bees in pursuit. In an instant he was seen no more, but the bees whirled all around in wild excitement. I was soon stung twice, and returning the hive to its position, marched off very demurely out of harm's way. Having reached a safe distance, I looked up for my man. He was seen whirling his arms wildly, jumping and rushing frantically through threshing-floor, on his way to the woods. I called to him to stop and I would assist to free him from his tormentors; but he seemed as deaf as myself, and mad with excitement and pain, soon disappeared in the woods. Thus far the story is a natural one, and the like occurrence may have happened frequently elsewhere.

Three days after, having heard nothing of him, and feeling uneasy on his account, though he was a stranger to me and an Irishman, I could not refrain from making inquiry about him. So I went to a friend who lived not far from the Irishman's farm. I reached there about four o'clock in the afternoon, and at once stated my errand, relating what had taken place on the previous Sunday at my apiary. My friend said he knew it already, and then related to me the version of the story as given by the other side, which was very different from mine. We concluded to go together to the man's farm, and explain how the affair happened. I could not account for the mishap, except by supposing that as his mouth was close to the bees he had blown his breath among them, and the effect would be the worse if the man had just previously drank whisky or other ardent spirits. The object of our visit was to inform him where the fault probably lay; but the man was not at home on our arrival, having just gone to fetch his cows from pasture. On entering the house, my friend made some apologizing remarks about the behavior of the bees on Sunday. In an instant the wife rose like a fury, screaming at the top of her voice, foaming with passion, and uttering maledictions with steam-like volubility. She seemed ready and resolved, like a hyena, to tear me to pieces; and, deaf as I am, I was soon aware that something worse than bee-stings was in prospect. I therefore refrained from making any remarks; but my friend finally succeeded in assuring the woman that the trouble arose from her husband's whisky-flavored breath being blown among the

bees. This seemed to calm her somewhat, though she would not give up the quarrel. On a hint from my friend we left the premises, and I accompanied him to his home, where he related to me the account of the affair given by the other party, as follows:

It seems that the man, on leaving my bee-house with a rush, knocked off his hat, which rolled nearly under the hive. Seizing it in hot haste, he leaped and run in bewildered excitement, thinking perhaps that half the colony of bees were after him. He was stung seven times —once just below his left eye, four times under the hair of his head, once on the right cheek, and once on the neck. This was nearly enough to make him hot on such a warm summer's day. It was the first time in his life that the man had a conflict with a bee-hive. He leaped and ran till he was about forty rods from me in the woods. When there he felt another keen burning sensation in his right side, as though a whole handful of bees were stinging him at once. Just think of it! Who ever heard of bees setting a man on fire! Yet such was the veritable fact! The man was a confirmed inveterate smoker, and constantly carried friction matches about him. That same Sunday he happened to have them in his vest pocket, and among them some copper cents had found their way, which he had received at a tavern where he drank a glass of whiskey on his return from church. While he was running, and jumping, and striking with his hands, these copper cents ignited the friction matches; these set fire to the cotton lining of his pocket, whence it was communicated to his muslin shirt, in which a hole was burned as large as a man's hand. Luckily it was discovered in time, and he succeeded in putting it out. Thus he reached home exhausted, bewildered, and almost crazy. The first impression of himself and wife was that the bees had been set on him by supernatural powers; for both man and wife are very ignorant and exceedingly superstitious, having full faith in witch-craft and sorcery. In their eyes it was nothing but a hellish, devilish, occult affair, of which the husband had become the sport and the victim.

This occurrence is suggestive. The man's ignorance led him into trouble. Had he known and believed that the human breath is offensive and irritating to bees, he would have been careful to avoid breathing upon them and thus arousing their anger; he could have gratified his curiosity without incurring their displeasure. If he had common prudence and carefulness, he would not have carried friction matches loosely in his pocket, running the risk of a horrid death by fire, as might have been his fate if he had fainted or fallen when in the woods. Again his ignorance and superstition might have led him to seek for revenge in the destruction of my bees. And in such circumstances, might not others, worse tempered and maliciously disposed, proceed, under fancied provocation, to commit arson or murder, impelled to criminal acts by ignorance and gross superstition? Is it not hence the interest of every bee-keeper, to avail himself of every opportunity to guide the inquiring, to instruct the ignorant, to inform the prejudiced, and to enlighten the superstitious?

J. DUFFELER.

BROWN CO., WIS.

[For the American Bee Journal.]

Various Sorts of Matters.

Our friend Puckett seems to take on about as bad as the little girl said her baby did cutting teeth. (See May No B. J., page 216.) Hear him! He says;—"Where did the late swarm get the thin watery honey? Is not an early swarm just as liable to get such honey, if it is secreted in the flowers? Bees do not make honey, &c." (In vol. 3, No. 9, page 172, I gave a short article on the subject of evaporating nectar.) I wish now to give some more of my nonsense, as our friend calls it. He says bees do not make honey; but I am strongly inclined to think they do. We will take maple-sap as an example. When the weather is suitable, the bees in a strong stock, will manufacture or make honey from that, and of the purest kind, though the sap is so thin and watery that, in boiling it down, it takes about sixteen quarts to make one pound of grained sugar, or twelve quarts to make it of the consistency of honey such as bees make of it in the spring. So you perceive that a bee has to gather twelve drops of sap to make one drop of honey. Yet all they gather through the day is consumed in rearing brood, or made into honey through the night; and thin watery nectar is made into honey, by the bees, in the same manner and by the same process. I am aware that some say that if you feed sugar syrup, the bees will deposit it in the cells just as you feed it to them. That is so in the fall, or when the weather is cold. But take that same syrup and reduce it very thin and watery, and the bees will make it into honey, if fed to them in the months of July or August. I am inclined to think that, in the process of evaporation, the bees must necesarily mix a portion of their saliva with it, which prevents it from granulating, to a certain extent.

Here is another question for consideration. While the black bees are storing their watery honey in cool weather, either in summer or fall, the Italians are storing a good quality, gathered from the same source and at the same time. —This good quality of the Italians in all probability had something to do with saving them the past season, whereas the blacks allidied in the same apiary.

A great deal depends upon the management of bees, whether they leave thin watery honey or not. We will take, for example, two swarms at the same time, and both of the same size. And, for illustration, we will say that, late in the season, one is put in a hive twelve inches square, with eight frames; and the other is, at the same time, put into a hive of the same dimensions, containing four frames. The first fills the eight frames half way down with comb and honey, and the honey will be thin and watery. The other fills the four frames, from the bottom, with comb and honey, and the honey is of good quality. The one with the

four frames will winter in a good depository, have abundance of honey, and not have the dysentery; while the other, with the eight frames, will consume all its honey, have the dysentery, and starve to death before spring. I think you will understand what I mean. It is as necessary to have warmth for evaporating nectar by the bees, as it is to have warmth to develop brood or save all the wax in building comb.

To be a little more plain with friend Puckett, so that he can understand what I mean by my bees "knowing better than to have the dysentery," it is necessary that the bee-master should thoroughly understand his business, and attend to it, and then his bees will not have the dysentery. I was sick this winter and could not attend to my bees, or to the ventilation of the cellar. Some of my stocks commenced breeding very rapidly, and consequently got the dysentery more or less, But as soon as I could I remedied it, by properly ventilating the cellar. Some writers call it a contagious disease, and recommend giving the bees medicine. But I contend that it is not. I have not lost a swarm. All are doing finely. So it appears that Gallup's nonsensical method of managing bees is full as good as some other people's sensible management.

In warm weather, in summer, when the days and nights are both warm, a comparatively small quantity of bees will make a good quality of honey, let the nectar be ever so thin and watery when gathered. You will recollect that last fall was very cool, while the bees were storing the principal quantity of honey, and that too when the bees were greatly reduced in numbers. You will observe that Novice in his reverses says some of his swarms had consumed immense quantities of honey by the first of March. Try again, friend Novice; don't give up the ship!

I have considerable more to say on the subject of dysentery or no dysentery; but, in all probability, our friend Puckett has got enough of Gallup's nonsense for one dose. I shall be pleased if friend Puckett will tell us through the BEE JOURNAL, whether he thinks the maple sugar sap is made into honey by the bees, or does the sap make itself into honey? This is an important question.

Our Mississippi friend, Tomlinson, will perceive that I told him, in the February No., page 154, that my rule would only hold good early in the season, or when the bees were not gathering honey too rapidly. His bees were evidently gathering honey rapidly at the time they were building comb. Then, too, I presume your southern climate is different from ours. A correspondent from Tennessee writes that young early queens invariably lay drone eggs the first season. With us, that is the exception, and not the rule—especially with black bees. We want more southern correspondence for the BEE JOURNAL.

To day my bees are evaporating nectar from rack maple blossoms, and gathering it too.

E GALLUP.

OSAGE, IOWA, MAY 8, 1869.

[For the American Bee Journal.]

Facts for Beekeepers.

A suitable abode for the honey bee, is a hive perfectly air-tight, except at one place, and that should be so that the bee-keeper can enlarge or diminish at will. Bees do not thrive in a hive where there is a current of air passing through it. They stop all holes at the top if they can.

I will have to take my friend Elisha to task a little, as he says in the August number of the BEE JOURNAL, 1868—"there is no use in inflicting another patent hive on the community for the next thousand years. All use what is called the Lanstroth principle; only the form is varied. When they depart from that, they make a move in the wrong direction. "Now if I understand right what our much esteemed friend L. L. Langstroth has patented—and all he has—is, movable comb frames so arranged in the hive or case that they will leave a vacant space all around, between the hive and frames, and between the honey board and frames. This is the main feature of his patent. I hold that all hives that have this space, no matter whether they are shallow or deep, giving free circulation of cold air all around the bees, and striking in between each frame to the clustering bees, do more harm than the shallowness of the hives our friend Elisha speaks of. In early spring, if there come a few days of mild weather, the bees spread out over the combs, the queen depositing eggs in nearly all the cells, and the bees cover them. Then comes a cold snap, or even one cold night, causing the bees to cluster compactly together. All the eggs and larvæ outside of the cluster are chilled, and cleaned out by the bees. And so it goes all through the changeable weather of spring. All hives that have this vacant space, it is almost impossible for bees to breed up in at all in early spring; making them too late for early swarming or to gather honey when it is most plentiful. If such hives have lower and upward ventilation, letting the cool air rush up through the hive and carrying off the animal heat, the bees in them are worthless. Comb frames should fit tight to the side of the hive, to prevent this vacant space. Our friend A. V. Conklin, of this place, has constructed a hive with frames tight fitting, that are as easily handled, taken out, and put back, as any movable comb frames that I have handled.

AARON BENEDICT.

BENNINGTON, OHIO.

The study of natural history requires method as a lodestar to guide through its intricacies, but is one which, pursued simply as a recreation, yields both much amusement and gratifying instruction. It shows us that when we unclasp the book of nature, and whenever we may turn its leaves, every word the syllables of which we strive to spell, is pregnant with fruitfulness of wonderful wisdom, whose profound expression the human intellect is too limited thoroughly to comprehend.

[For the American Bee Journal.]

Bee Pasturage.

The importance of bee pasturage has already been urged through the columns of the JOURNAL, as well as by most of our modern writers on bees; but I do not think it is appreciated as it should be, by the majority of beekeepers. While the war about the form and shape of hives continues, without any prospect of a speedy peace, and the paramount importance of the third yellow band is so strenously insisted on, I fear that the equally important question of where those yellow daughters of Italy are to get the honey to fill those hives, is for the time being overlooked.

With an abundance of bee pasturage, I do do not think that we should ever have a poor year for honey. By an abundance of bee pasturage I mean a succession, commencing early in spring and lasting through the season. And if the supply from natural sources is deficient or fails, it should be provided by introducing and cultivating those honey-producing plants whose blossoms will come in at the proper time to fill up the deficiency. Surely, if bees are worthy of cultivation at all, it would pay to expend a little labor and money in prolonging the season for them—thus rendering them doubly valuable.

Here is the way they talk *bee* down in this country. Last year: "Well, neighbor, how are your bees?" "Well, this has been a bad spring for bees. It has been dry, and cold, and very windy, and the bees could not get about very well; but I tell you they are making a heap of honey!" This year: "Well, neighbor, how are your bees doing this year?" "Well, I don't know, hardly. We have had rain nearly all the time, and it has been a bad season for the bees; but, somehow, they are making lots of honey!" This has been my experience here, for the few years that I have kept bees. Whether wet or cold, hot or dry, our bees have generally yielded us about the same quantity of surplus. It may have been because we expected but little from them, and were satisfied to go to our *old box* hives and remove almost one-third of the contents, leaving the bees to fill them up again at their leisure, and not seeing the inside of them again until the same time the next year. But with the movable combs and the honey-emptying machine, I hope soon to discover whether there be that great difference in the honey harvest of different years, which some assert.

In localities where the honey harvest only lasts two or three weeks, I am not surprised to hear the complaint that a drouth or a wet spell cuts off the supplies. But here we have such an abundance of honey-producing plants, growing in such a variety of locations—some in uplands, some in bottoms, some upon the poorest hillsides, others in thick jungles, that any unfavorable atmospheric condition would not affect them all at the same time, or at least very unequally. Hence we can safely count on a continuous supply of honey here, from very early spring till the middle or last of July. I am disposed to think now that August is our only month of scarcity. Our fall pasturage, I think, is pretty good. My bees, last year, raised a new brood of drones in September.

I have been making a note of bee pasturage in my section this season, and will give you the result, for the benefit of the readers of the BEE JOURNAL. I will only note the principal trees and plants which occur in more or less abundance, and upon which I have seen bees at work in considerable numbers. Many are left out as unimportant; while many others, doubtless, have been overlooked.

RED MAPLE, bloomed January 24; ceased March 15.

The blossom buds of the red maple commenced opening on the 24th of January, at which time I noticed bees carrying in pollen from it. It was in full bloom February 9th, and ceased to bloom March 15th.

The importance of the red maple as a bee plant cannot be over-estimated. We raise our bees on it here for the spring campaign. Coming in at a time when, from our warm winters, the bees have nearly exhausted their supply of honey, it is invaluable; and were it not for it we should have to resort to feeding. It furnishes a supply of natural pollen so early, that I fear I shall be debarred from the pleasure of seeing my bees enjoy a feast of "old rye." It grows in countless numbers along all our branch creeks and river bottoms.

PLUM, bloomed March 12; ceased March 28.
PEACH, bloomed March 16; ceased April 1.
SPICEWOOD, bloomed March 20; ceased April 1.
DOGWOOD, bloomed March 20; ceased May 5.
SUGAR MAPLE, bloomed March 30; ceased April 19.
SASSAFRAS, bloomed March 30; ceased April 20.
PEAR AND CHERRY, bloomed March 30; ceased April 10.
GOOSEBERRY, bloomed March 30; ceased April 20.

The last three are unimportant at present, on account of their scarcity; but we hope the day is not distant when the lovers of good fruit, as well as of bees, will make them more plentiful.

RED BUD, bloomed April 4; ceased April 20.
APPLE, bloomed April 6; ceased April 25.
WILLOW, bloomed April 11; ceased May 8.

The willow is a splendid source of pasturage with us, growing thickly along the banks of creeks in our old fields, and is spreading every year over the marshy places in the creek and river bottoms.

WILD CHERRY, bloomed April 20; ceased April 30.
DEWBERRY, bloomed April 25; ceased May 25.
WHITE CLOVER, bloomed April 29; still blooming.

Three or four years ago, white clover was almost unknown among us. I only know of

one or two little patches in an old field. But now, in some of the old clearings on the edge of Forked Deer River bottom, we have as good a stand of it, as perhaps could be found in any pasture in New York or Pennsylvania. It is principally distributed through the agency of cattle and high water; and it can now be found very thick along all of the road sides and banks of streams, and even extending into the thick woods. I have been told recently that the bottoms along Hatchie River are being overgrown with it, in the same way. My bees are now working on it finely, and I hope that it will carry them through July.

BARBERRY, or Hockberry, bloomed May 1; ceased May 15.

BLACK GUM, bloomed May 2; ceased May 9.

BLACKBERRIES, bloomed May 2; ceased May 30.

These latter grow everywhere in the greatest profusion, and yield the most delicately flavored honey that we have. I am sorry to say that the growth threatens to appropriate a large portion of our soil. The cattle avoid it; the farmers give way to it; Mr. Nig scratches his head and declines a contest; but the bees "go in" with a will. Mr. Editor, I too have a honey-emptying machine of my own construction, and can appreciate the delight of "NOVICE." From a strong prejudice against beekeeping, my "better half" has been converted into an enthusiastic apiarian. Need I add, that delicious honey, and the aroma from the honey-emptying machine during the blackberry harvest, won her over.

LOCUST, bloomed May 3: ceased May 20.

POPLAR, bloomed May 3; ceased June 5.

West Tennessee is the home of the poplar. Here it attains its greatest size. I know of one tree that is nine feet in diameter. It is a favorite amusement of the little negroes to knock down the blossoms and suck the honey they contain.

HOLLY, bloomed May 10; ceased May 28.

This is a splendid honey plant, but does not last long. It grows only in the bottoms, along the banks of creeks and rivers. Bees resort to it in great numbers, during the whole period of its blooming.

PERSIMMON, bloomed May 24; ceased June 10.

WILD GRAPES, bloomed May 26; ceased June 30.

The latter is another splendid honey plant with us, not excelled even by the poplar. It is very abundant, growing everywhere. Indeed, it would be a very difficult matter to find a spot in any of the thick woods of West Tennessee, that is not adorned by the rank foliage of the *Vitis Labrusca*.

CATNIP, bloomed May 22; ceased June 25.

I have been very favorably impressed with catnip as a bee plant; and think that a little labor expended in its propogation, would be well rewarded. A few bunches set upon the top of some old worn out hill, would soon cover the whole hill-side, as it spreads rapidly.

MUSCADINE, bloomed June 12; ceased June 15.

ELDER, bloomed June 10; ceased July 10.

CHESTNUT, bloomed June 15; ceased June 27.

PONDWEED, bloomed June 23; still blooming.

SUMAC, bloomed June 25; still blooming.

CORN BLOSSOMS, bloomed July 5; still blooming.

There are three periods during which I have seen bees carry in pollen more abundantly than at any other time during the year, viz: during the blooming of the red maple, in February; from corn blossoms, in July; and, again, from the golden rod, in October.

HONEY DEW. Showers of honey dew fell on the 28th of May, and on the 8th and the 18th of June. I have seen it crystalized on poplar leaves. Chestnut leaves have been glued together with it. It has been very abundant also on the white oak, and on the rough leaves of the hickory. *Too much* of it, this year, to be the production of the insects. What do you say of it, Mr. Editor.*

If you think it will be interesting to the readers of the BEE JOURNAL, I will continue my notes on the bee pasturage of West Tennessee, and report again at the close of the season.

Yours, with bee love,

S. W. COLE.

ANDREW CHAPEL, TENN., July 10, 1869.

*Our impression, from observations we have had opportunities to make, is that what are called honey dews originate from three different sources, and differ accordingly in quality. That which is most common in the Southern section of the Middle States, is of atmospheric origin; is usually very abundant when it occurs; is eagerly gathered by the bees; and yields a honey scarcely to be distinguished in taste, color, or consistence, from that gathered from the blossoms of plants. It is always serviceable and never injurious to the bees. Another kind, less abundant in quantity and of more rare occurrence, is of vegetable origin, being an exudation on the leaves and in the axillæ of various plants, dependant probably on certain states of the atmosphere. It is darker than the former, somewhat viscid, and of less agreeable taste, though constituting a pretty good article. It is gathered somewhat less eagerly by the bees and is not injurious to them, or is not produced and stored in sufficient quantity to become so. The third kind, usually, when it occurs more abundant than the second, is more restricted in its range. It is the product of aphides, and its production is dependant on states of the atmosphere favoring the rapid multiplication of those insects. As it usually occurs when the nectar of flowers is scarce, it is more freely gathered and stored by the bees. It is an ill-tasted, rather innutritous substance, having a strong tendency to decomposition. When stored in a hive in such quantity as to make it the main dependence of the bees in winter, is apt to produce debility; and dysentery will follow if the bees are long confined by stress of weather.

[For the American Bee Journal.]

Brooding Temperature Again.

There is an article in the March number of the BEE JOURNAL, headed "Brooding Temperature," by J. D. Meador. This is a subject that is but imperfectly understood by a large proportion of beekeepers. Yet it is one of vital importance to all. Let us see if we cannot say something respecting it that will be of some interest.

It has been said that this economising the animal heat, so as to keep up the proper breeding temperature, and also to save all the wax at the same time, is one of Gallup's whims. Well. friends, if you understand the theory, and will put it in practice, you will find that it is one of the best whims you ever obtained from Gallup. To illustrate—let us take two hives to begin with, of exactly the same form and dimensions. The Quinby hive and the hive I use are both of the same form and size, namely twelve inches deep, twelve inches wide, and eighteen inches long, inside measure. The difference is in the arrangement of the frames. Mr. Quinby's go the long way of the hive, while mine go the short way. Now we will use a division board in both hives, and we will have a practical beekeeper to manage both hives. He will soon find out that with the same quantity of bees, and with queens of equal fertility, at the same time and under the same circumstances, the hive first mentioned cannot be managed so as to have every cell occupied with brood, so as to save all the wax; while the other *can* be thus managed. Furthermore, the hive with the small frames can be managed so that double the quantity of workers can be gathering outside; while, in the hive with the large frame, they have to stay at home in order to keep up the necessary heat to develop the brood. In the hive with the large frame the bees are spread out over too large a surface; whereas in the hive with the small frame they are in a more natural and compact form.

After both hives are filled with combs, brood, and bees, there would not be any material difference, except in the working of the hive. But let both hives become reduced in numbers, by bad wintering or any other cause, and then the advantage of the small frames is at once seen. Here is a box of ten by twelve inches square and twenty-four inches high. There was a good swarm put into it last year, and they filled the hive to the bottom; the bees have been well wintered and consumed but little of their stores; the brood comb is at the bottom, but the animal heat is at the top. Now, cut off the top, and bring the size of the hive to twelve inches in depth, and double the quantity of bees can and will go into the fields as gatherers.

Again, we will put an ordinary swarm into a small compact hive—one that you can finally enlarge to the same capacity as the other. The one will make a profitable swarm, while the other does comparatively nothing. The simple reason is this, the one has a large working force to spare; while in the other most of the bees have to stay at home, developing only half the quantity of brood which the former can mature. After the weather becomes warm enough, both night and day, there will not be so marked a difference between them, as there is in cool weather.

In old box hive times, it was a fact well known to practical beekeepers that in a hive twelve inches square, the bees would build their combs the nearest right and send out the earliest swarms—surpassing, in this respect, any other form of hive that we could get up, if the spring was favorable, so that they did not run short of supplies. Yet a hive of that capacity proved too small for *every* season. The hive I use is twelve inches square, with another half hive added to one side. Those are the dimensions. Now recollect that I never said that the hive I use is the best hive in the world, or that it will make honey without bees; but that the hive suits me, and I am perhaps as difficult to please as any other person. At least, before I obtained this hive I tried as many different forms of hives, in all probability, as any person in the United States. I formed an idea of what a hive should do, and until I obtained one that would work up to my standard, I was not satisfied. Should any one wish more surplus room, he can make the cap a ten acre lot, if he chooses. Unless you have a hive that will work on this principle, it is useless to attempt a rapid increase. You will have to wait till late in the season, and in every case make up a strong swarm at the start. But in that case it is always more difficult to control the comb-building with a strong swarm to commence with, than with a weak one. Furthermore, a swarm very strong at the start, will build comb faster than the queen can occupy it; and in such case it is difficult to make all swarms alike for the next season. Occasionally, in some circumstances, a swarm in a large hive becames reduced to a mere handful, and still recuperates; but in the right kind of hive we can always bring up a weak swarm speedily. The best of us occasionally have swarms reduced in numbers before we become aware of it. How often, early in the spring, we wish to strengthen a weak colony by inserting a card of brood from a strong swarm, without injuring the latter. Then, how much easier to handle a small frame than a large one, without danger of breaking the comb. When I am increasing my stocks, I frequently have beekeepers visit me. We walk around among the stocks, and the universal remark is—"how strong and populous your swarms are!" But when I come to open the hives, and show them the nuclei with two, three, or four frames, they cannot comprehend how such small swarms, which from their working, they had supposed were extra populous, could work so strong, until I explain to them the principle of economizing the animal heat. Now, gentlemen, this is not mere theory. It can be demonstrated in twenty-four hours, at any time in the summer. We would take one of those nuclei at night; remove the division board; and move the four combs, bees and all, into the centre of the hive. The following day nearly all the bees stay at home to keep up the necessary temperature; and the queen will cease laying, except in

the middle of the cluster. At night again, place them back as before; adjust the division board; and next day they will be ready to go to work again, and you will find the queen can and will deposite eggs wherever there are empty cells. Of course, I mean that this shall be done in common spring weather, and not with the thermometer at 95° in the shade.

I might enlarge on this subject, but it appears to be unnecessary. It is one, nevertheless, that is worthy of careful study and practice by every beekeeper in the land, and in deciding what form of hive you will adopt, this matter should be taken into consideration.

ELISHA GALLUP.

OSAGE, IOWA.

[For the American Bee Journal.]

How My Bees Wintered.

In December last I prepared, in about an hour, twenty-four hives of bees for wintering on their summer stands, in the manner described on page 109, volume 4, B. J., and will briefly report the result.

I examined every colony and every comb, April 15 and 16, transferring all to new and clean hives. Two colonies, both strong in the fall, were dead. One, judging from the large amount of bee-bread in the combs, had failed to rear a queen after swarming; and the other had starved. Both cases the result of want of attention on my part, and not the fault of the system of wintering. Four weak swarms, having only five or six frames of comb each, came through in fine condition. These had received especial care, on account of their weakness—having been covered with a roll of cotton batting, in addition to the carpet or woolen clothing; and are to-day, in consequence of a little stimulative feeding and a full supply of combs from the dead colonies, in as forward a condition as any I have.

I left home on the 16th of April for a month's absence, and on returning, May 16th, found three more colonies dead. An examination showed plainly that they had been robbed. But, again, the four weak colonies had escaped unharmed, and stronger ones had been the victims. Why? Simply because I had again taken better care of the weak ones, by closing the entrances to their hives so that only one or two bees could pass at once, and had left the others open three or four inches, thinking them strong enough to defend themselves against robbers. Not one of these five colonies would have been lost, if I could have been at home to attend to them at the right time. Five minutes labor would have saved them all. A fertile queen, or a comb of brood from which to raise one, for the first; one or two frames of honey for the second; and some small blocks to reduce the entrances of the last three, would have been sufficient. Not a comb of all the three hundred was mouldy or soiled; and every colony but the one that starved (containing that remarkably prolific and beautiful hybrid queen,) had plenty of honey remaining, April 16th, to carry them through.

My bees flew freely, voiding fæces January 6th and February 9th, and perhaps at other times in my absence from home—an advantage that bees housed in winter quarters could not enjoy. Repeated examinations during the whole winter, showed the bees in all the hives lying up on the top of the frames, against the warm woolen covering. On the whole I like the plan well enough to employ it again next winter.

My large double glass hive cast a fine swarm to-day, leaving a strong colony in the old hive; while some of my neighbors' bees, in box hives, are on the point of starvation—owing to the scarcity of spring forage in this vicinity. How can this be so? Answer: *I* feed my bees when they need food; *they* do not, on the ground that "bees ought to support themselves." I fed twenty-five pounds of sugar made into syrup to twenty colonies yesterday, in less than four hours time. How? Take off the honey board, lay a frame of empty comb (drone comb is best, though any will answer,) on the top of the frames; pour on the syrup freely, a pint at a time; when the twenty are supplied, it will be about time to go round again. But the bees are all on the combs, and in the way. Never mind, pour it on—it runs off the bees like water off a duck. I got the idea from Mr. Langstroth, who says, and I agree with him, that "honey comb is the best possible bee-feeder."

R. BICKFORD.

SENECA FALLS, N. Y., June 12, 1869.

[For the American Bee Journal.]

The Paper Hive and its Inventor.

As Charles Hastings has introduced "Cox's Paper Hive" to the readers of the BEE JOURNAL, we choose to add our little knowledge of said hive and its patentee and vender.

One year ago, the last days of March, said E. Cox made his appearance in our town. His purpose in visiting the place, as per his own statement, was not to sell the right to use his hive, or territory under his patent; but simply to avail himself of the opportunity, means, and talent *here afforded* to test his "new theory of the fungus growth of the honey comb," treated of by J. M. Marvin, in the April number of the BEE JOURNAL, under the heading of "a new and curious theory." Yet, after gathering all the looked-for information on this point that he could, he tarried here week after week—the attractions of our "romantic place" chain-like bound him, until realizing a few hundred dollars on sale of territory, he found it in his heart to bid adieu to our town's many attractions.

In Cox's own words his hive was destined to perfectly revolutionize beekeeping. So perfectly adapted was it to the nature and wants of the bee, that, as it became known, no other hive could stand before it, or with it. Of necessity it would supersede *all other hives*. Bees would go on breeding all winter. He put a

swarm in it in November of the fall previous, in the town of Ripon, where he was then living; and said swarm had gone on breeding all winter, and in March, prior to his visiting our town, had thrown off a swarm of "about" two quarts of bees, and had left in the hive "about" seven quarts.

The brood chamber of his said hive was just a *cubit* foot. The hive, too, is *moth-proof*, made so by two pieces of tin nailed each side of the entrance. *Robber-proof* also, as the entrance is through the bottom board directly into the bee chamber. Two entrances, one on a side, through which a good swarm of bees would walk in and out up to three hundred per minute. At Rochester, Minnesota, during the season of 1867, *four hundred swarms*, in his hive, had averaged *seventy-five* pounds of surplus honey in boxes. Who, at Rochester, can give us the facts on this point?

As to said hive's practical working hereabout, out of at least *seventy-five* swarms put in last season, not ten are surviving at this date; not so large a percentage having failed of all the other hives in the country. Through promise of "great yield of honey and increase of bees," I was induced to let said Cox pick a stock from among fifty, to put in his hive, as an experimental swarm, to be taken charge of by another, for which I was to be insured at least thirty-five pounds of box honey in the fall, with an additional prime swarm of bees, as my share of the products. Said honey I have not seen, and the stocks of bees have gone the way of all flesh.

Cox's "movable top bars of *a peculiar shape*," and the "thin sharp lance," have had their day with me. The turning from the use of movable comb frames, to the use of bars and lance, is a step backward in bee-culture; and if Hastings has not advanced to the use of movable comb frames, ere his present season's experience with Cox's hive, bars, and lance is finished, he will probably rue the day that he ever made acquaintance with them, or their vender either. One claim of Cox for his hive, overlooked, is certainly worth mentioning. It is, that *black bees*, in it, will do *equally well* with the Italians!

Z. C. FAIRBANKS.

APPLETON, WIS., June 12, 1869.

Spanish Broom. (Cytisus albus.)

By a calculation, which one may justly enough make, on the bees' labors, one may conclude that an acre of Spanish broom will yield honey and wax enough for ten good stocks of bees; for this broom brings a vast quantity of flowers fertile, both in wax and in honey, and continues blooming a long time. And when a stock of bees have flowers to their liking, of which this is one of the chief, and have a large quantity of them, they will fill their hive both with wax and honey, in five or six weeks, if the weather permit them to go abroad. The common broom is in no way comparable to the Spanish broom, either for its flowers or its withs.—BRADLEY.

[For the American Bee Journal.]

Natural Ventilation.

In the BEE JOURNAL, volume 4, number 10, page 183, in an article headed "*Upward Ventilation*," by Mr. MINER, he hits us upward ventilation men, and says that we have not the manliness to admit his theory.

A number of years ago, when I lived in Canada, we had what I call a hard winter. The thermometer, for sixty days in succession was not above 10° below zero, and for eight of those days the mercury was frozen. The following spring all the wild bees in hollow trees were found to be dead, *except those with abundant ventilation at the top of the cavity or hollow.* And in fact so, likewise, did all the tame bees die, *unless they had upward ventilation.* I found three hollow trees in the spring, with abundance of bottom ventilation, and the bees were all dead. There was plenty of honey, and one of them had over one hundred pounds. I found them by following my own bees to the trees, as they were taking away the honey. I also found one extra good swarm, with the bees all alive. The entrance was *at the top of the cavity.* The hole was round, and about four inches in diameter. I lost some swarms in Weeks' Vermont hives, with abundance of downward ventilation; but my box hives and old conical straw hive, with a two-inch hole at the top and the bottoms plastered up tight, wintered in excellent condition. A neighbor wintered eight swarms in box hives, with a two-inch hole in the top of each. They set on the top of hemlock stumps, without any protection whatever; and were in the best condition in the spring.

That bees will winter in Illinois, without upward ventilation, I do not in the least doubt; and that they will winter with upward ventilation is also a positive fact. With upward ventilation, and all downward ventilation stopped, there is no circulation of air, only as the bees themselves cause it; and they cause the circulation just as they require it, and no more. It is a well known fact, (at least to me), that bees will be just as prosperous in a hollow tree, in summer, with the entrance at the top of the cavity, as they will be with the entrance at the bottom; and this rule holds just as good with the common box hives. But bees frequently go into a hollow tree with both upward and downward ventilation. In that case, in a cold winter, they invariably perish. If Infinite Goodness has furnished the bee with a home adapted to its needs, as Mr. Miner says, a great many swarms, according to my experience, are very foolish in making their selection.

I am well satisfied that bees would succeed in Illinois, with upward ventilation, or with horizontal ventilation; but in Lower Canada, upward ventilation in the hollow tree, is the rule for success.

Here, in this climate, I have found it poor policy to have bees commence breeding earlier than the first of March; and, in some seasons, not before the 15th. Swarms that commence breeding early in February, are no further ad-

vanced on the 20th of May, than those of the same strength in numbers that do not commence breeding until the first of March. Then those that commenced breeding earliest, have consumed much more honey without a corresponding benefit.

In a dry airy cellar, such as Mr. Thomas speaks of in the June number of the BEE JOURNAL, bees can be wintered without upward ventilation. I know that to be a fact by actual experience. Yet, with proper upward ventilation they will winter just as well. But in a damp or moist cellar, or a cave, it is impossible to winter them in good condition, without upward ventilation. And a large majority of us farmers have to use just such cellars as we happen to have, especially in this new country.

The AMERICAN BEE JOURNAL is a National Institution. It is not especially for your locality, neither is it for mine. Therefore do not knock us all down with your arguments, without as much as giving us a chance to defend ourselves. There are quite a number of subscribers (and there ought to be many more) in Canada, even further north than where I was born.

ELISHA GALLUP.

OSAGE, IOWA.

[From the Southern Planter and Farmer.]

Alsike Clover for Bee Pasturage.

Early in the year 1868, I was induced by an article I saw in the "BEE JOURNAL," to try the alsike clover for my bees. I accordingly purchased a pound of the seed, which I sowed upon a small piece of land (about a quarter of an acre,) though too much seed for the quantity of land. It germinated well, and, like the red clover, only made a good stand. But this spring (1869) it came up well, and now, the 16th of June, it will stand, if erect, twenty to thirty inches high, and is covered with blossoms and bees. Indeed, I have rarely seen bees more numerous on buckwheat blooms, than on this clover. I shall sow a lot of buckwheat for fall pasturage; but for May and June, I think the alsike clover furnishes more food than any plant I have ever seen. When not too cool or rainy for them to be out, you will find the patch covered with bees pretty well all day, and at times almost in swarms. They have sent forth a goodly number of swarms, and filled the bodies of the hives well with store honey; and I hope will yield a good surplus. I shall sow this fall another lot much larger than the one I now have, reserving that till the other is sufficiently advanced to afford them food; and as long as I am able to procure seed to sow, shall do so to keep up a succession. Besides, it yields an abundant crop of hay; not so much as the red clover, but the sweets furnished to the bees more than make up any difference. The bloom is like that of the white clover, folding back in such a way as to enable the bees to get into every part of it; while on the red clover, coming up in the same patch, you never see one.

M. G F.

HENRICO CO., VA.

[For the American Bee Journal.]

Honor to Whom Honor is Due.

MR. EDITOR:—After Columbus had crossed the pathless ocean, discovered and made known the existence of another continent, and proved to the world that progression was the universal order of things, it was easy enough to follow where he had led, and to assume to wear the laurels which he had won. So in BEE-CULTURE. Years ago, when apiculture as a science was in swaddling clothes, there was published a book called "Langstroth on the Hive and Honey Bee." This book purported to give a new system of bee-culture, and recommended a new form of hive. Of course, at first, a great hue and cry was raised against it, but "truth is mighty and must prevail." Soon matters changed, and the same parties who cried out against the principles laid down in that book, began to appropriate them, and that too in a manner not at all creditable to them, as honest conscientious individuals. At first perhaps this order of things was not as culpable as it might have been; for many persons ignorant of the claims set forth in the Langstroth patent, were violating it innocently. But *now*, it seems to me that no one can appropriate surreptitiously any of Mr. Langstroth's claims, without incurring the guilt of gross fraud.

It is easy enough to write a book on bee-culture, when Mr. Langstroth's able work is at hand to plagiarise from; and it is easy enough to get up a movable comb hive, when Langstroth's patent is at hand to build by; but is it honest? is it just? Do we not all owe a debt of gratitude to Mr. Langstroth, which should lead us not only not to steal his improvements, but when we *legitimately* use them, give him full credit for them? In all the different styles of hives that I have seen advertised in the BEE JOURNAL and elsewhere, I find them simply modifications of the Langstroth hive; and still I find but one man among them all, who comes out and gives the credit due to that hive, (I refer to H. A. King & Co.'s invention of the American hive,) and not only do they steal his invention or parts thereof; but some of the writers steal his written ideas, and publish them bodily in the BEE JOURNAL and elsewhere, without even so much as saying, by your leave. Mr. Alley, of Wenham, is perhaps an exception to the above, as he in his new hive, (unpatented), gives Mr. Langstroth full credit. In fact, he calls it a Langstroth hive. I have seen his hive in practical use, and for surplus honey I think it has no superior. It fully demonstrates the fact that bees will work in side boxes, and while its form is such that it can easily be manipulated, it is open to no objection that can be urged against its wintering out of doors. In fact I deem it a model hive for surplus honey, and would recommend bee-keepers generally to try it.

I have no pecuniary interest in the Langstroth hive, and have written this article simply as a matter of justice to him whose book on bee-culture first led me to engage in a pursuit

which to me is both pleasant and profitable. Perhaps some may not fully agree with the ideas set forth in Mr. Langstroth's work; but that cannot be a good excuse for bodily appropriating that which they do admit is correct.

Hoping that every reader of the "JOURNAL" will appreciate the justice of Mr. Langstroth's claims, and aid him in the maintenance of them, I subscribe myself, ever for the right,

J. E. POND, JR.

FOXBORO' MASS., July 3, 1869.

[For the American Bee Journal.]

Italian Bees.—A. Grimm's Apiary.

MR. EDITOR:—By your permission, I will give the readers of the BEE JOURNAL some of my experience, observations, &c. *First*, I would like to say a few words aout the Italian Bee. About seven years ago, I bought a queen of Mr. Langstroth, and paid ten dollars for her. About five years ago I bought another of him, and paid him twenty dollars for her. I was well satisfied with the queens, for I think they were pure. I succeeded in raising some pure queens from them. Ever since that time I have pure Italians, hybrids, and natives to manage, and I must say that the Italian bees are much superior to the natives, with but one exception—that is, when they once thoroughly aroused, they are great deal worse to sting.

We are determined to Italianize our whole apiary this seacon, (What I mean by *our*, is myself and brother own the bees jointly—two hundred stocks—but I have the care of them.) For that purpose we have just bought forty swarms of Mr. Adam Grimm, of Jefferson, Wisconsin; and as it fell to my lot to go and get them, I would like to say a few words about what I saw. I happened to be at Mr. Grimm's a year ago last fall, at the time he opened the boxes in which he brought in his imported queens. I helped him some two or three days, to pick out the native queens in his hives and introduce the Italians. As for the queens, Mr. G. had very much handsomer ones in his own stock. The imported ones looked to me like little dark things. He did not have, I think, more than one or two well-marked queens. I made some allowance, in my thoughts, for them at the time, as having been confined so long. But this spring I recogized the same little dark things, with but little improvement since then. Mr. G. designates them as Mona queens; and I will do so likewise.

I was at Mr. Grimm's from the 11th to the 17th of May, 1869. During that time we examined a great many colonies, and when we came to a Mona stock, we almost invariably found those queens much more prolific, and the hive much stronger with bees and heavier with honey, than were the hives of his former bees. Another thing we were very sure to find—that is, they were a great deal crosser. About the progeny of those queens. The drones are black, with three narrow light-colored stripes. The workers are darker and browner; and some of them have very dark brown stripes. On the whole, they are not as handsome or bright as his other stocks; but are stronger and better workers.

Mr. Grimm has his bees in three places. Before selling any this spring, he had in his home apiary three hundred and sixty-two colonies, all pure Italians except twelve. Those twelve he let a Mr. Foster, who lives some miles away, have on shares. He is determined to have no opposition in his own apiary, so that all who purchase of him can depend on pure stock. In his northern apiary, he had one hundred and twenty-two colonies, nearly every hive in real good condition, and among them about six hybrid stocks. The southern apiary contains one hundred and sixteen stocks, all but two in good condition. I think his bees had too much honey for that time of the year. Nearly every hive contained one or more cards of comb completely full of honey. What I mean by good swarms at that season of the year, is four or five cards of comb, well filled with brood, and bees enough to cover it; with a few pounds of honey.

TWO FERTILE QUEENS IN A HIVE.

While I was at Mr. Grimm's we found two fertile queens in one hive; and without doubt, they had lived together since swarming last season; as it was too early for one to be a young fertile queen. Mr. G. said they were in a hive where more than one swarm went together last year. We are positive they both laid eggs, for we separated them, and put one part of the bees with one queen in one hive, and the rest of the bees with the other queen in another hive. We afterwards examined both, to see if all was right, and they had both been laying.

SIZE OF HIVES.

I have used several kinds of hives. I first used the Langstroth hive, 10 inches deep, 14 inches wide, and 18 inches long, all inside measure; and used ten frames to a hive. I now use a hive the same size, only 12 inches wide, instead of 14, with eight frames; and find it to work better in this locality than any hive I ever used. The honey boxes we use are about 6 by 6 inches and 5 inches deep, holding from four to five pounds of honey. We expect to put in twelve to a hive. The way we will manage it, is to take off the honey-board and lay strips of wood on the frames, thick enough to come up level with the sides of the hive, so that the boxes will sit level. We will then lay a two inch strip lengthwise and in the centre of the hive; then set on six boxes, three on each side of the strip. These boxes will have holes in the botton. Then when we want to put on six boxes more, we will take out the two-inch strip, suspend a brood comb above where it lay, and then set on the other six boxes. Their entrances will be at the inside lower corner, next to the suspended comb. We expect the bees will be led directly to the boxes by the comb spoken of.

I have made this communication full long already, and will close by wishing all bee-keepers a better season for bees this year, than the last was, which was very poor indeed with us. I also wish the BEE JOURNAL much success, as I consider it a great help to the bee-keepers, and think all should take it.

ISSACHAR CROWFOOT.

RUBICON, WISCONSIN, JUNE 9, 1869.

[For the American Bee Journal.]

Winter Ventilation.

My bees were put in the cellar on the 15th of November, averaging 25 pounds net. The honey-boards were raised one-fourth of an inch on blocks, and the lower holes closed. This carries off dampness from the sides of the hives better than the top holes open, without circulation through the mass of bees.—April 14th, the bees averaged 15 pounds, having used ten pounds, each, in five months. The strongest family used twelve pounds; the weakest used seven pounds. April 17th, set out the best hives. They had no bee bread, and had raised no brood. They made no spots of fæces on the hive or the adjoining fence—which, according to Mr. Salisbury, B. J., page 116, showed them perfectly healthy. April 25th, saw first pollen gathered. April 26th, saw plenty of eggs, but no larvæ. Have moved drone combs to sides of the hive, to retard drone breeding; and by placing empty worker comb in centre of cluster, my best hive has over 31,000 brood in all stages, with no drones emerged yet. The second best had 21,000; others 10,000 to 12,000. Brood combs all free from mould.

In 1867, put in hives without upward ventilation. Last of January water began to run down the sides, and in movable comb hives blue mould an eighth of an inch long began to appear. I inverted the box hive and raised the honey board. The water on the sides disappeared, but the mould did not; and after setting out in the spring the bees made sawdust of those combs for a month, removing nearly one-third of some of them.

H. D. MINER.

WASHINGTON HARBOR, WISCONSIN, June 12,'69.

[For the American Bee Journal.

The Buck-eye Tree, as a Honey-producing Plant.

I do not remember seeing the buck-eye reckoned among the honey-producing plants. Some of my colonies have made comb and stored thirty pounds of surplus honey from the buck-eye blossoms this spring. They come into bloom a few days before the white clover, and just after the fruit trees. The quality of the honey is good. It is very thick, dark colored as the bass-wood honey; but not quite equal to it in quality.

For the information of those who never saw a buck-eye tree, I would state that it grows here on the bottom lands of streams, and is the first to leaf out in the spring. The tree, blossoms, and nuts, look like a horse chestnut, and can hardly be distinguished from it, except in smell—which is very offensive.

White clover began to blossom here the first of June, but the season has been so wet up to July 4th, that I doubt if any one colony has gathered two pounds of honey from it.

M. M.

SUMMITT COUNTY, OHIO.

[For the American Bee Journal]

The Cheapest and Best Bee Feeder.

I have seen none of those bee-feeders the merits of which have been so widely spread abroad through the BEE JOURNAL. I do not claim for myself much inventive genius. In the one I am about to describe I have simply taken what I consider the better parts of two already described, and combined them into one.

One described, was a self-sealing glass jar; the top punched full of fine holes; a piece of strainer wire-cloth soldered over them; and through these openings the bees were to suck their feed, after the jar is inverted. A tin rim $\frac{3}{8}$ to $\frac{1}{2}$ inch wide was soldered around the top, to hold the jar up from the honey board, and so give a larger number of bees a chance to work on the same at one time.

Another described, was a tumbler with a piece of fine cotton-cloth put over the top, and supported by an india-rubber band; and this inverted over a hole in the honey-board.

What I have done, is to add the tin rim on the first described, to the latter. This I have done by making a rim $\frac{3}{8}$ inch wide, large enough to fit loosely over the top of the tumbler. On the middle of the rim put a small band projecting inwards. This, when the tumbler is inverted, will hold it up from the honey-board, and give the whole surface of the top of the tumbler for the bees to work on at once. We can thus see how fast the feed lowers. The whole cost of these was eleven cents each. When not wanted for feeders, the tumblers are worth just as much for any other purpose as they ever were.

ALONZO BARNARD.

BANGOR, MAINE.

[For the American Bee Journal.]

Queens Mating Twice.

MR. EDITOR:—With your permission, I will give Mr. Pond and the readers of the JOURNAL some facts, that he may endorse me.

First. I never said that old queens, or queens after they once begin lay freely, will mate with drones. I now say that they will not.

Second. I say young queens, before they begin to lay, may, and often do, pair or copulate more than once. As the drone dies in the act of copulation, of course she mates with more than one. in such cases—which drone effected her impregnation, I will leave for Mr. Pond to say; but I believe they all influenced her progeny.

The queen alluded to on page 140, BEE JOURNAL, vol. 4, was raised miles from the nearest Italian drones. She could not have met one of them. Yet her progeny was two and three yellow banded. She lived three years, and never produced a black bee.

DELHI, June 4, 1869. JOHN L. DAVIS.

The bees throughout the world, as known collectively to the richest cabinets, number about two thousand species.

[For the American Bee Journal.]

Novice, and What He has been Doing, up to July 5, 1869.

DEAR BEE JOURNAL: We hope your readers have not concluded that "Novice's Reverses" have quenched his enthusiasm, as he has been quiet so long. That is far from being the case. Urgent business demanded his attention so closely for the past few months that no time presented itself, save the "small hours" of the night; and, after a day of toil, those seemed hardly the thing for a general talk, such as you, Mr. Editor, have a right to expect. Our "better-half," moreover, decidedly objects to such pastime on Sundays, although we were full of matter to "gossip about bees;" and thus it has all accumulated until the present time. So here we are.

We would remark to our readers that, after sending our last article, the editor kindly gave us some suggestions, as follows, in regard to speedily building up an apiary again.

APRIL 24, 1869.

DEAR SIR: I am sorry to hear of the *reverses:* but have a suggestion to offer, which may possibly be of some service in re-establishing your apiary speedily. We all know that a prolific queen *can* lay many more eggs than, from want of room and other causes, she actually does lay. Some years ago a German bee-keeper, named Vormwalt, conceived the idea that by means of artificial incubation, this *reserved power* of a queen might be made available for a rapid multiplication of stock. He constructed a hot-bed in the ordinary manner, and sunk into or set over it a nucleus hive made water-tight; and suspended therein, when the temperature had risen to *brooding height*, frames containing combs with sealed brood, taken indiscriminately from his hives. The young bees hatched out in due time, and were taken charge of by some dozens of adult workers which had been transferred with the brood combs, there being some honey in those combs for their support. Empty worker combs were inserted in the parent hives, in place of the sealed brood removed; and thus the queens were accommodated with a fresh supply of empty cells, which they speedily stocked with eggs—encouraged thereto by the strength of their colonies and abundant stimulative feeding. These were in turn transferred to the hot-bed nucleus, when the brood was sealed. By a suitable arrangement the young bees when hatched were passed into a nucleus hive with a a sliding bottom, set over the one in which the hatching was carried on; and thence used for strengthening or building up colonies. The account stated that Mr. V. was very successful in hatching brood taken out immediately after the cells were sealed. Oviposition was thus kept up almost without intermission, and a multitude of working bees, relieved from duty, could join in out-door labors.

I do not pretend to give you the exact details, but merely an outline of the process, which your own ingenuity would doubtless enable you to improve upon, if you are tempted to try the experiment. As you have plenty of empty combs, and honey enough for stimulative feeding, it strikes me that this process might be worth trying; and if successful it would be quite a novelty in bee-raising in this country.

This letter was received about the 1st of May, and we had been for some days studying on the feasibility of making our few remaining queens supply eggs for more than one hive, as we found two of our surviving thirteen colonies were queenless in April; and we soon after killed one of the rest by accident, as will be mentioned hereafter. Hence, by the middle of May, we really had only ten queens, and our stocks were so weak that there were not enough bees, we should think, to make more than four decent swarms. We mention this, that our readers may know what we had to build up on, especially Mr. Argo, who has our sincere thanks for his kind notice of our mishap, in the July number. His supposition that the disease, or whatever it is called, was the result of our imprudence in not taking the bees in early enough, is certainly a mistake. This he would have seen by reading our article more carefully, as about half a dozen stocks were carried in quite early—just about the proper time—but they suffered alike with the rest, and the neighbor we mentioned, lost his only Italian stock in precisely the same way, with the hive half full of sealed honey, on its summer stand.

We think we shall leave our bees out next winter; but already begin to feel a dread of the result in any case.

To go back to our subject. We immediately determined to try the artificial hatching; but as the weather was tolerably warm by the 1st of May, we thought we would not then go to the expense of an apparatus, and worked in this way. We removed two frames each of sealed-brood from two of our Langstroth hives, and placed the four in an empty hive, having first shaken off all the bees. This was then placed close to our Stewart stove in the kitchen, in which we keep fire day and night—the family having little dread of the contents, as they could hardly believe that *real live bees* would be the result.

We would mention here that we have several times tried the experiment mentioned in Mr. Langstroth's book, of putting an Italian queen into a hive of black bees, and counting the age of the young bees before they gathered honey and pollen, and the time always agreed with that statement.

These bees were hybrids, and on the third day they made such a humming that we took them out of doors, and only carried them in at night. On the fourth day we opened the hive, and could hardly believe our eyes, so great was the number of gray, downy "baby bees," as the children called them; and we were much surprised to find *queen-cells started* by the little chaps.

On the fifth day they were flying so busily that we thought they were being robbed; but on going close to the hive, found they were all right.

On the sixth day we gave them a pure queen from another hive that we wished should start queen-cells; and on the seventh day, Mr. Editor, there was no disputing it, they were working briskly on the fruit blossoms, bringing in honey and pollen! In a week more, any one would have pronounced that hive the heaviest swarm we had, judging from the way they worked.

Why did they commence to work at an age so much younger than usual? Was it because there were no old bees among them, and necessity obliged them to work? We do not think we carried a dozen bees at farthest on the frames, when the bees were shaken off and brushed from them.

We formerly made our artificial swarms by raising queens in a nucleus; and then, as soon as the queen began to lay, caging her in an empty hive set in the place of some old stock,

with a frame or two of brood, the returning bees making the swarm. This plan does very well, but we were obliged to keep the queen caged at least two days when she was most needed.

We have this season made twenty-five artificial swarms, and all from our ten weak stocks, on a plan which we think easier and less trouble than any we have ever seen. It is simply this: Two frames of brood and honey are removed from the parent hive, and placed in a new hive located anywhere you wish. In about twenty days they will have a laying queen, and the addition of two more frames of *sealed brood*, if early enough in the season, say when natural swarming commences, is amply sufficient, so far as our experience goes. A friend who keeps black bees thinks *they* would require more to make a sure thing of it—which is probably true. In this case there is no hunting of queens and no caging. In fact, they need not be seen at all, unless it is desired to clip one wing of the young one, which we always do. With the four frames taken at different times from the old stock, which they will replace so quickly as to be hardly missed, there is hardly a chance of failure.

To go back a little. Our wintering disaster deprived us of all our purely fertilized queens, except one; which we explain by supposing that the hybrids are hardier than the pure Italians, which we have many times had reason to think is the case. This queen was introduced without any trouble among the "baby bees," as before mentioned. About the last of May we transferred her to a nucleus that had failed in rearing a queen, and introduced her by means of diluted honey scented with peppermint, as per directions in a former number of the BEE JOURNAL. She was received as if she had always belonged there; but, to be sure of her safety, we looked again, fifteen minutes after releasing her, and she was moving about among the bees as quietly as we could desire. Imagine our mortification and sorrow on finding her in the evening on the bottom board, surrounded by a small ball of *hissing* bees, and just expiring. We could not forbear setting our foot on the clump of mischievous imps, after extricating the queen. She died soon after. This is the first case we have had, where a queen had once been received and was afterwards turned upon.

This accident forced us to divide our weak stocks severely in forming nuclei, to take advantage of our only chance for pure young queens. We managed to get twenty-two fine yellow ones from the brood in the hive.

We were very much surprised in opening the hive containing the "baby bees" ten days afterwards, to find the combs from which we had cut brood, filled with new *worker* comb; and, stranger still, with eggs and brood in all stages, and finally a young queen that had evidently been laying all the time since our lamented pure queen had been removed! As she is very dark, and her bees nearly black, we must suppose that she was raised from the hybrid brood, removed and placed in the hive thirty or forty days before. In that case she remained some two or three weeks in the hive, at the same time with the pure queen. We can hardly accept this explanation, and would be much obliged to some one for a better.

Our thanks are due to R. M. Argo, for his kind offer on page 15. We cheerfully accept his challenge, with the best will in the world; only it must be remembered that we had only eleven stocks to commence with. *Ten* in reality, though we will call it eleven, as we were at fault in losing the queen. Also, we had only frames of comb enough to furnish thirty hives in all—the bees having had to build the rest. As wintering is so uncertain, would it not be best to submit an account of our stock to the Editor about next April, and let him decide who made the best year's work; and he who is found to have made most progress, shall receive an Italian queen from the other.

Mr. Editor, we are sorry to say that some of the subscribers to the Bee Journal do not profit by it as much as they should do. Only a few days ago, a bee-keeper came seven or eight miles to see how we swarmed bees artificially. When asked if he had not found the articles in the Bee Journal plain enough, he said he had not had time to read the last two numbers.

Others who were at first quite enthusiastic, say they cannot get time to bother about bees; although a "patent hive," with some one to "talk it," will command their attention at once.

Is there any other business that will *pay* without some bother? Or any that can be made profitable without some care, attention, inquiry, or study? If there is, please give us some account of it.

A friend now here wintered, we think, some forty or fifty stocks last winter, without losing any, in a house constructed for the purpose. He carried them out during the warm weather to let them fly, and then put them back again. Has not a properly constructed house many advantages over a cellar? One very important one to us would be that it could be made much easier of access.

With best wishes to the BEE JOURNAL and all its readers, we remain, NOVICE.

[For the American Bee Journal.]

Queen Cell Queerly Placed.

MR. EDITOR: We do not wish to weary your patience with a long letter about something perhaps not at all interesting to you, but would like to relate an incident that came under our observation on the 11th of June, as we think it goes to prove that queen-cells are not always made on the identical comb that the egg was laid in. While examining an old stock that had just cast off its first swarm, we discovered a very large and perfectly developed queen-cell, capped over, attached to the bottom piece of one of the outside frames which was not two-thirds full of comb; and there was no comb within three inches of the cell. Did the queen lay the egg in the bottom piece of the frame? Or did the bees carry it there?

FAIRBROTHER & CRAM.

MAQUOKETA, IOWA, July 17, 1869.

THE AMERICAN BEE JOURNAL.

WASHINGTON, AUGUST, 1869.

☞ Though this number of the BEE JOURNAL contains four additional pages, we have still on hand a number of communications which reached us too late for insertion this month.

☞ The success of "NOVICE" in the artificial incubation of bees, should lead to further experiments. With a suitable apparatus and such modifications and improvements of the process as will readily suggest themselves, we think a complete revolution in artificial multiplication of stocks may be effected.

In the further prosecution of his investigation of the nature and cause of foulbrood, Mr. Lambrecht has ascertained that though its chief source is found in fermenting or fermented pollen and honey, there are at least seven secondary causes to which it can be traced. Yet he feels confident that he has it now so completely under control as to be able to produce, check and cure the disease at will. His ability to do this was recently tested by a committee appointed by the Salzgitter Apiarian Society in Brunswick, Prussia. They certify that in a healthy colony selected by themselves, Mr. L. speedily produced the disease by feeding the bees with fermenting pollen and honey, so that when examined by them the brood cells contained a tough, brownish-grey, fetid matter. Even the larvæ in new drone comb were destroyed thereby—which circumstance the committee regard as decisive evidence of the existence of the malady in its most malignant form. We have not yet seen their final report, but understand that it is conclusive as to the efficiency of the mode of treatment employed by Mr. L.,—which varies according to the particular type or stage of the disease. We presume we shall have the report at an early day; probably in time for the next number of the BEE JOURNAL.

Mr. L. designs now, if sufficient encouragement be offered, to communicate to bee-keepers his method of effectually curing a foulbroody colony in two days at most, to prevent the introduction or spread of the disease in an apiary, and to render fermented or infected honey innocuous when used as bee-feed. To this end he proposes to issue, at as early a period as practicable, a pamphlet giving his processes and the curative means employed, provided 500 subscribers at four dollars per copy, or 1,000 at two dollars, can be obtained in the United States. These prices are fixed with a view of securing to him compensation for his labor, and some remuneration for the benefit conferred on bee-culture by his invention. If efficient, a knowledge of the process would, even at the higher price of the pamphlet, be cheap to any one in whose apiary the disease exists, or where the introduction of it may be feared, for hitherto it has proved to be an unmanageable and disastrous malady when it has obtained foothold. We will receive the names of subscribers conditionally, to be forwarded only in case the whole number required is made up, and there be satisfactory evidence that the process will in all cases effect a cure.

☞ We shall hold over the "Hungarian's" story till next month, hoping meantime to find a further account of the wonderful mode of wintering spoken of by him. He did not originate the story, nor did he greatly *embellish* it. It has long been current in Germany, and is certainly almost as marvellous a narrative as that of the ancient method of producing bees detailed by Virgil.

We find the following paragraph now going the rounds in the daily papers:

☞ A victimized farmer has found that kerosene oil gives instant relief if applied to bee-stings."

It happens that, whatever else the "victimized farmer" may have found, he did not find that fact. The discovery was made by a correspondent of the BEE JOURNAL—the Rev. P. R. Russell, of Bolton, Mass., and by him communicated for our June number. We have known it to be successfully tried in several instances recently.

☞ Where pasturage is abundant in the fall, but scarce in July and August, feed your bees in those months sufficiently to keep up brooding. Bees reared in August and September may indeed come too late to aid in out-door labor before the season ends: but their presence in the hive will release a corresponding number of older bees from home duties, and allow them to engage in foraging abroad while the weather permits.

Last fall bees were observed gathering honey plentifully from the blossoms of the European Ivy (*Hedera helix*) on the old city walls of Grüningen in Germany, which are literally covered with that climber. Colonies nearly destitute of stores, procured a full winter's supply from that source, late in September, when no other plants were in bloom there. Have bees been known to frequent the blossoms of this plant in this country?

Correspondence of the Bee Journal.

WINTERSET, IOWA, June 28.—But few bees have swarmed here yet, except Italians. These have kept swarming almost every pleasant day since the 26th of May. My Italians are beginning to wake up some of those keeping bees here. Several told me, a few days ago, that their (common brown) bees never swarm before July. A large swarm of Italians came out within fifteen minutes after those visitors called. We had already sixteen or eighteen swarms at that time, though here June is generally a poor month for bees, there being almost no white clover around here yet.—M. B.

JEFFERSON, WIS., June 28.—The spring has been exceedingly unfavorable for bees here, and the summer opens rather unpromisingly. I wintered my bees very successfully, having lost only two colonies out of one hundred placed in a cellar last fall, where they had to remain till near Easter, before the weather allowed me to remove them to their summer stands. Possibly as the summer comes on pasturage may improve; but until now I have had to feed my bees liberally.—W. W.

WINTERSPORT, ME., June 22.—Notwithstanding the frequent letters and communications you receive, I am constrained to think that you do not fully appreciate the immense benefit your publication confers on beekeepers. No person who possesses a decent share of brains, can be a constant reader of the Journal and not be *progressive and reasonable*. It is hoped that you may be able to publish it semi-monthly at an early day.—G. S. S.

ALBANY, ILL.—Please send me the Bee Journal another year. I could not well do without it. My bees are doing very well this season. They commenced swarming on the 4th of June. They are hybrid Italians, and were kept in the cellar till the middle of March, without top ventilation. They came out all right.—A. B.

SHEBOYGAN FALLS, WIS., July 21.—Please find enclosed two dollars, for which send me the BEE JOURNAL. To-day I have accidentally met with late numbers, and find them full of meat—just the thing to be of value to the practical bee-keeper.—C. C. M.

SHILOH, OHIO, July 17.—Cannot get along without the Bee-Journal; wish it came oftener. —W. H. O.

VIRDEN, ILLS.—I have three very fine gold-colored queens, twenty-three days old. Two of them have been laying for nearly two weeks; the other has not laid at all, though she is the largest of the three, and looks as though she were full of eggs. What can be the reason? I do not like to destroy her, as she is so fine. I have an old Italian queen, very fine, which I put into a stock of very poor hybrids on the first of May. I took out a card of comb last Saturday, to give to a nucleus to raise queens. There were three or four eggs in some of the cells. I saw the queen at the time; she seemed all right, and was laying. Could there be a fertile worker and a fertile queen in the hive at the same time?—J. L. P.

CHIPPEWA, CANADA.—Please send me the Bee Journal another year. I trust your circulation does and will increase. I consider the publication a valuable work.—F. G. N.

CHILLICOTHE, MO., June 28.—The season last year here was very dry, the winter open and warm, the spring late and cold, the summer thus far is very wet, and bees are doing poorly.—J. W. G.

LEWISBURG, WEST VA., July 2.—Bees are doing remarkably well here this season. They have not given many swarms, but are storing a great quantity of honey. There is an immense crop of white clover, and there has been an unusual bloom from the beginning. I hope this season will close quite encouragingly to the bee-culturists, as also to the Bee Journal.—T. L. S.

HANCOCK, N. H., June 28.—Bees are doing very well here. White clover is just in blossom, and the Italians are gathering honey fast.—H. W. W.

DANVERS, MASS., June 30.—I will try bee-keeping one year more, hoping to have more success than we have had for these four or five years past. This spring my bees commenced with good prospects. Never better. Stocks strong, honey enough to breed well, splendid weather; but lo and behold! my bees began to swarm. Formerly, when I began to keep bees, I watched eagerly for swarms; but now they come when I do not think of them, one or two a day, and sometimes two together. We had two large swarms of Italians come out together and unite, and we did not attempt to separate them. I commenced with twelve stocks, and formed one strong nucleus, besides which I had fifteen swarms, at least we hived that number; but whether they all came from our hives I do not know—though I know that most of them did. And now, sir, where shall we get our surplus honey? We have had poor honey weather for a fortnight; and we cannot expect the season to last more than a fortnight longer. My bees are still pretty strong now, notwithstanding the swarms. If we do not get surplus honey this year, I shall think bee-keeping a poor business as far as money is concerned. I enclose two dollars meantime, hoping the season and the Bee Journal will bring forth good things.—E. E. P.

OSAGE, IOWA, June 29.—This season is hard on the black-bees, and also on the one and two-striped Italian; but the pure three-striped fellows are gathering pollen, rearing brood, sending forth swarms, &c., while the one and two-striped and the blacks have to be fed to keep them from actually starving to death. I have before this heard that the two-striped were just as good for breeding and working purposes as the pure ones; but this season, thus far, demonstrates the superiority of the pure Italians over all others. Crops, with the exception of corn, are extraordinarily good thus far.—E. G.

PORTLAND, MAINE, June 14.—Enclosed I send you two dollars to pay for the fifth volume of the *Bee Journal*. I cannot *afford* to take it at a less price. Each number is worth to me the price of the whole volume; and I take extra pains to advise all my bee-keeping friends to subscribe for it. I am under great obligations to several contributors, especially to friend Gallup for his bold way of instructing us in the mysteries of bee-keeping. If any of your contributors have occasion to visit this city, I hope they will call on me.

The season here is cold and backward. No swarms have come out yet to my knowledge. My colonies are strong, and I think will swarm, if the weather gives them an opportunity, though one or two have exhausted their patience and cast out their drones. Notwithstanding the season has been backward, I have found my bees to breed rapidly by the use of Mr. J. L. Hubbard's little tin-cone bee-feeder—the *simplest*, *best*, and *handiest* that I have ever seen; and thanks to Mr. Hubbard, *no patent*.

I have supplied friends in this vicinity with twenty hives of pure Italian bees this spring, and if I do not miss my calculations, I intend to be the means of inducing one thousand persons in this State to keep bees.

Only think of the immense amount of honey that goes to waste in the United States—enough in five years to pay the whole *national debt*, principal and interest. Of course it cannot all be gathered; but any additional accumulation of it adds so much to the real wealth of the country. I think, with a little exertion, the increase in this State may be fivefold in a very few years.—M. G. PALMER.

CINCINNATI, OHIO, June 19.—I thought I might this year have a chance to test the superiority of the Italian-bees over the black-bees, if they possess any in regard to producing more honey. So, in the spring, I set a hive of Italians and one of black-bees side by side, both having young queens of last year, and being of the same strength—the Italian hive having a little advantage. I examined them both yesterday. Their breeding apartment is alike full of bees, brood and honey; but the black-bees have filled their supers (eighteen small frames holding about 1¾ pounds each) almost full, while the Italians have yet hardly commenced working in theirs. What may be the cause of it? I must add that both stocks were weak in the spring from the effects of last year's disease; but they are now strong and preparing to swarm. I have the Langstroth-hive, with ten frames in.

I keep my bees on the roof of my house in town, and have very good luck with them. I took yesterday from a young swarm, made on the 22d of May, fifteen frames of honey, each weighing 1¾ pounds. I took on the 22d of May, fourteen small frames, each weighing one pound, or a little over. They had made this honey, I believe from the blossoms of locust-trees in my neighborhood. The honey was very nice and white. These are black-bees.—C. F. M.

LANSINGVILLE, N. Y., July 5.—Bees are not doing much here this season. No swarms yet, and the probability is that there will not be many in this vicinity.—D. W. F.

FULTON, ILL., July 6.—Bees are swarming too much here, for those bee-owners who do not attend to them.—R. R. M.

GNADENHUTTEN, OHIO, July 5.—Bees in our neighborhood have not gathered much surplus honey up to this time, though we have had regular rains and an abundance of white clover, which is the main source of honey with us. The reason for this, I think, is that the bees having found so little honey the latter part of last season, exhausted their stock entirely last winter. Consequently it took them a long time to fill up their hives before they could work in the surplus honey boxes. Besides, the bees not having swarmed last season, many of the queens have become old and exhausted. This keeps the colonies in a weak condition, and hence swarms are not plenty this summer, especially from black-bees.

The past winter was comparatively mild, and bees wintered well on their summer stands, when protected from winds and rain. We know nothing here of the "bee disease," except what is brought about by bad management, which can only be cured by bee-keepers informing themselves by reading the Bee Journal and other good works on bees.—S. L.

HOPKINSVILLE, KY., July 9.—I could not well do without your valuable Journal. The last three numbers have amply repaid me for my subscription. I hope to be able to send you some subscribers in a short time. Bee-culture is gaining ground in this region. This has been a fair honey season.—G. B. L.

LOWELL, KY., July 6.—My bees went up from thirteen stands to fifty-one this season, all but two natural swarms. Hundreds of pounds of cap-honey besides.—R. M. A.

TYRONE, CANADA, July 6.—The weather this season has been wet, cold, and windy, in this section of Canada, and consequently unfavorable for bee-keeping.—J. M. L.

LEWISTON, ME., July 13.—There are but few new swarms here this spring. I wintered five stocks the past winter. All came out in fine condition; but I have had only one swarm from them, which issued on the 21st of June. June was a very poor month for bees in this vicinity; it was too wet. July has been quite good so far, and the bees are gathering honey in abundance. White clover is very plenty here this season. There are very few bees kept in this locality. I do not think there are more than

twenty-five or thirty swarms in the town. I think I am the only bee-keeper in town who takes the Bee Journal. I could not think of doing without it. Long may it prosper.—HORACE LIBBY.

MONMOUTH, ILL., July 10.—Bees here are doing better this year than at any time since I came West. On June 27th, I had a bushel swarm come off, and next day I took seventy pounds of honey, made in nine frames in supers. Both the old stock and the new are working finely in the boxes. Most of the bees in this section are swarming too much; some casting as many as four or five swarms. The old box-hive is used almost exclusively.

I have on four different occasions introduced queens by scenting the hive and queen with nutmeg-syrup. Within the past week I have succeeded in introducing unfertile queens to colonies; which most writers say is almost an impossibility. I do not think it would do to introduce queens when bees are not gathering honey freely, without caging for forty-eight hours; at least there would be great risk. Robber-bees would also be more apt to pitch in, from scenting the nutmeg-syrup.

I have tried putting gum-camphor into a hive being robbed, and find it effectual in stopping the robbers.

I am confident that bee-keepers who have Italian queens impregnated by common drones, cannot keep their stock pure. Should a queen mate with a drone from a hybrid queen, her progeny will not all show the *three* bands, as they should do if pure. I have a queen of this kind now, which I raised last summer. About one bee in a hundred of her brood has lost one band. There were no common drones for her to mate with; but I had hybrid ones in two hives. I put in pure queens this spring, to prevent there being any hybrid drones raised.

Were the hybrid bees not so terribly cross, I do not see but that they are just as good, if not better, than the pure Italians. If anything they are more industrious, and the queens very prolific. But if they are all as cross as mine were, I would not accept them as a gift, and be obliged to handle them. Tobacco smoke will hardly have any effect on them; but the Simon Pure are a source of great pleasure to a lover of bees.

It seems strange to me that bees have gathered as much honey as they did; for during the past month we have had almost constant rain, so that bees could not work one-fourth of the time. But the rains have kept the white clover in bloom; and it now looks as if it would continue for ten days longer. Basswood is just coming into bloom, so that bees near the timber will have a fine chance. Mine are in town, and timber is not very near to me, though still some within a mile, and my bees will have some little chance. Honey will no doubt be quite cheap this year.—T. G. McG.

OSAGE, IOWA, July 5.—My private correspondence on the bee question is very large. Bees are doing rather indifferently well throughout the entire north; and as far south as Memphis, Tennessee, they are doing extraordinarily well.—E. G.

MAQUOKETA, IOWA, July 17.—Enclosed please find two dollars, for which send to our address the fifth volume ot the American Bee Journal. We would not do without it for the price of four stocks of pure Italians every year. We have had the pleasure of perusing its pages once a month for the past three years, and aside from the pleasure the reading afforded, it has been at least three hundred dollars' benefit in the way of cash obtained by a knowledge of some important facts, that we would have learned from no other source than the Journal.

Bees are doing exceedingly well here this season. Ours commenced swarming on the 23d of May, and notwithstanding the bad weather we had in June, they have been issuing out nearly every day since, and are still boiling out as if they were bent on filling every empty hive we could get. They stored some honey in boxes during the period that crabapple-trees were in bloom, which is something unusual for this section of country.—F. & C.

FULTON, ILL., July 15.—Bees are doing very well here when they can get out between the showers, as it is raining about half the time. They gather honey enough to keep breeding rapidly; and with most bee-owners they are swarming too much. They are not storing as much surplus honey as most of us bee-keepers here would like to have; but if we have good weather the rest of the season, they are in a condition to improve it. The Alsike clover yields more honey here this season than the white, or at least they worked better on it.

I would like to inquire of some of the old bee-keepers how to get the bees to work in boxes, when they are very strong in numbers, and there is guide-comb put in the boxes.

I would also like to know if it is generally so that the progeny of queens imported direct from Italy is crosser than after they have been here several years. I have two imported queens, and their progeny is a great deal crosser than that of those I received from Mr. Langstroth.—R. R. M.

OLNEYVILLE, R. I.—Enclosed you will find two dollars, for which please continue to send to my address the American Bee Journal, for I cannot do without it. It is a welcome visitor, and no one that has more than one colony of bees should fail to get it.—J. K. W.

ST. CHARLES, ILL.—Best season for bees that we have seen for years.—M. M. B.

[For the American Bee Journal.]

Isolated Queen Cell.

In removing surplus honey from a Langstroth, full-glass hive, with frames in the upper box, I found a sealed queen-cell, and no other brood! This is something new to me. The bees must have taken the egg from the brood-chamber of the hive.

M. McMATH.

SNICKERSVILLE, VA., July 19, 1869.

[For the American Bee Journal.]

Honey Gathering and Bee Tricks.

Mr. Editor:—My bees are just now (June 14th) having a glorious time among the tulip trees and locusts, which are very prevalent here and have bloomed profusely this season. For six successive days, the bees have labored with a determination and zeal without a parallel in the insect creation, keeping up one continuous stream of dozens abreast charming and gladdening the soul of him who is destined to reap the fruit of their labor. Why, Mr. Editor, the delights which the period of swarming and hiving, and the accumulation of stores of honey afford the apiarian, are without question among the richest of all his earthly enjoyments.

My bees are *now* prepared to go into winter quarters, with stores amply sufficient for every emergency—the product of one short week; for they enjoyed only about one half of the fruit tree blossoms, the honey of which was nearly all expended in the production of brood. If I remember correctly, Mr. Langstroth says in his work, that the tulip tree is the greatest honey-producing tree in the world. But, Mr. Editor, not doubting the correctness of this invaluable author, I must say that it must be very good if it surpasses the locust.

Not to be too tedious on this subject I will mention a trick which one of my colonies tried to play upon me, and which, if it had succeeded, would have been quite a joke truly. The day after it had cast the first afterswarm, I made a draft on it for a young queen, which I secured from a cell that was about mature. This queen was designed for a quenless colony, but was lost in introducing. The fourth day after the first cast I made another draft on it for a cell, intending to introduce *the cell* this time, for better success. I was just about to insert the cell in its intended hive, when, accidentally and luckily too, my attention was called to the appearance of a portion of a scale protruding from its apex, resembling part of the capping of a drone or queen cell. This was a poser, for the cell otherwise, to all appearance, had not parted with its inmate, being waxed over as completely as any cell I ever saw. The appearance of this scale however created suspicion, which caused me to make an examination to satisfy my curiousity, when lo, to my surprise and chagrin I found a *dead bee* inclosed. Now, Mr. Editor, was the circumstance of this bee being closed up in the cell purely accidental; or did the bees, foreseeing my intention to demand another queen cell, and being enraged at my former interference, really think to play a joke on me, by defeating my calculation in this way?

By and by, I will favor you with a few interresting items connected with the swarmings of this hive, which to me at least are very strange, serving to confirm some principles previously known in the economy of swarming, and suggesting others that are *new*.

John L. McLean.

Richmond, Ohio, June 14, 1869.

[For the American Bee Journal]

Does it pay to paint Hives.

It is readily admitted that hives look better and will last longer if painted than if left unpainted. But I would like to know if bees will or can do as well in painted as in unpainted hives. By painted hives I would wish to be understood as referring only to those so painted as to be nearly or quite impervious to moisture.

Now, wherein is an unpainted hive superior to a painted one? Simply in this, that, if properly covered, it will keep the bees drier at all seasons of the year, (and this is of great advantage in cold weather), and in cold weather the bees will be kept much warmer. The moisture evaporates through all parts of the hive, keeping the bees dry, quiet and warm, avoiding dysentery and an undue consumption of honey.

I expect to have corncobs, saw dust, shavings, ashes, and other absorbents thrown into my face, to get out the moisture; but still I cannot help thinking that hives would keep bees better if unpainted.

Some of these absorbents may be useful, in keeping the bees warmer by thickening the walls of the hive. But is not the paint useful only so far as looks and durability are concerned; and is it not positively injurious, as retarding the evaporation of moisture? This is the result of my observation and experience, and I believe the damage is greater by far than the cost of a new hive occasionally.

I keep my bees on benches in the open field, some are under trees, with a temporary cover for each hive. In the winter I keep them in a part of the house cellar. And having a few unpainted hives all the time, I have found that bees in them keep in bitter condition.

I would like to know the experience of others.

J. L. Hubbard.

Walpole, N. H.

[For the American Bee Journal.]

Alsike Clover Seed.

Mr. Editor:—I would like to make some inquiry through the Bee Journal, of its many readers, in regard to the time and mode of saving and cleaning Alsike clover seed.

I believe it has been pretty thoroughly discussed and is generally believed to be a good honey-yielding plant, and also very good for hay—equal to red clover, if not better. But as to the mode and time of saving the seed, I do not remember that anything has been said. I would like some of those among the readers of the Journal who have tried it, to give us some information on these points.

I have been trying for several years to raise this kind of clover, but always failed until this season. I bought seed from different parties who advertised largely; but when I got it, I found it was all mixed with a great variety of seeds, dust, &c. And I never got any *alsike* to grow, without having numerous noxious weeds to come up with it. At last I saw a notice in the Bee Journal that Mr. H. M. Thomas, of

Brooklin, Canada, had *pure* seed. I sent a small sum to him to pay for some, and in a short time received by mail 1½ pounds of what I suppose to be *pure* alsike, as there was not a seed of any kind, except the alsike in the package—not even a particle of dust. It was put up, too, i n a good, strong, cotton sack, so that every seed put therein came to me; whereas the seed put up by others was in paper bags, some of which were torn and nearly half the seed wasted before it reached me.

The seed I got of Mr. Thomas is growing very well, though it was sown late (April 23). I will endeavor to get more seed from Mr. Thomas next spring, and sow several acres; and would like to know the best mode of gathering and cleaning the seed myself, that I may not be at the trouble and expense of sending all the way to Canada; and I presume there are many others in the same condition. Those having the knowledge will please communicate it through the JOURNAL, and doubtless oblige many readers. H. NESBIT.

CYNTHIANA, KENTUCKY.

P. S. I saw some Italian bees gathering honey freely from *red clover* on the 25th and 26th of June last. Bees are doing well here.

[For the American Bee Journal.]

Will some of your able correspondents through your valuable paper, inform me how I can get honey from my bees.

In the spring of 1864, I had only three swarms; I have now ninety-three, all from the three. I never sold a queen, and do not care to keep more than ten stocks, and from them get what honey I need in my family.

The cost of hives and annoyance of swarming and hiving, without honey, is too much for me, not having "bee on the brain."

Have you a *legitimate money-making man* among all of your subscribers or correspondents who will inform me how I can get honey, and no more bees?

My bees swarm when they have ample room for fifty pounds more honey in the boxes over the hives, and often without making a pound of honey in the boxes.

F. DANIELS.

GRAFTON, VT.

[For the American Bee Journal.]

I would suggest for the consideration of correspondents, that restricting themselves to argumentation, comments, and statements of facts, would give more permanent value and real interest to their contributions. Readers want remarks on bees and hives; discussions of debateable points of theory or practice, correction of misconceptions, exposure of error or misstatement, &c., and not ridicule of other correspondents. It is indeed not always easy to deal with such matters without letting some pungency intermingle: but personalities should be avoided. While fresh, they are amusing to some, but they do not read well after the volume is bound and put away in some good company for the use of apiarian posterity. E. A.

[For the American Bee Journal.]

A Paper Quilt.

MR. EDITOR: While perusing Mr. Lambrecht's able article, "The effect of water on the combs and life of the bees," I was expecting in every line some mention of the use of *paper*, instead of straw, for the purpose of absorbing the surplus moisture so detrimental to the prosperity of the bees in winter. For the benefit of the readers of the Journal, I will describe what we call a "Paper Quilt," answering several purposes: *First*, carrying off the moisture. *Second*, keeping the bees warm. *Third*, allowing the bees to pass to any part of the hive, *en masse*, in the coldest weather; in which condition they never perish for want of honey so long as there is any in the hive; and *last*, but not least, the quilt offers better opportunity for feeding in cold weather than any other arrangement yet known.

To make the quilt, take four pieces of half-inch board, one and a half inches wide, and of a length so that when nailed together the inside of the frame will be as large as the inside of the hive on which it is to be used. This done, you have a frame or box the size of your hive and one and a half inch deep. Next, paste four sheets of brown sugar paper over the top edge of the frame, allowing on every side one or more sheets to come down over the outside to the lower edge of the frame, to keep out cold. A slat nailed across the top, to handle it by, and the quilt is finished—cost, five cents.

The cap or chamber of the hive should be ventilated near the top. Two half-inch holes on opposite sides will be sufficient to keep the interior of the cap dry. I prefer offering ventilation for the bees near or at the bottom of the hive. Give plenty of it. Twenty stocks are lost for want of ventilation, where one is by giving too much. But do not allow a draught of air through the hive, so long as we can prevent dampness collecting so much cheaper and safer by the use of the paper quilt.

Every open-top hive, whether of straw, paper, or wood, should be provided with such a quilt, whether wintered indoors or out. We do not consider a hive half finished without one. Food can be given to the bees by laying down honey in the comb on top of the bars; or liquid sweets, water; or flour placed in empty comb will be taken down when needed, in cold or warm weather. A shallow feeder of any form may be used, if preferred to comb.

C. HASTINGS.

DOWAGIAC, MICHIGAN.

Honey Vinegar.

Take thirty gallons of rain-water, heat it, and put it into a barrel; add two quarts of whiskey, three pounds of honey, five cents worth of citric acid, and a little mother of vinegar. Fasten up the barrel, and put it in the cellar, and in a short time it will contain vinegar unsurpassed for purity and excellence of taste.—*Kretchmar's Guide Book.*